

# GeoTide Predictor



# GeoTide Predictor User Guide

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Document: GeoTide Predictor User Manual

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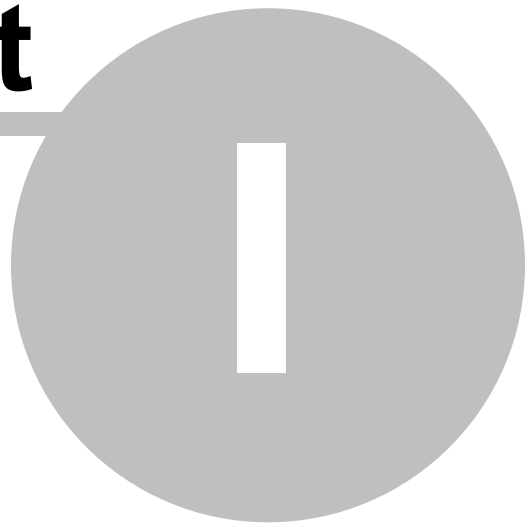
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## Overview

## 1 Overview

**GeoTide Predictor** is a professional tidal prediction package designed for the hydrographer, marine surveyor and general mariner. This document describes how to use the GeoTide Predictor program to create high quality predictions of tidal height and tidal streams in the form of graphs, listings, tide tables and printouts of various types.

GeoTide Predictor is the prediction portion of the **GeoTide Tidal Analyzer Suite** of programs, from UK company Geomatix Ltd. It is used by many Hydrographic Offices and Hydrographic Departments world-wide.

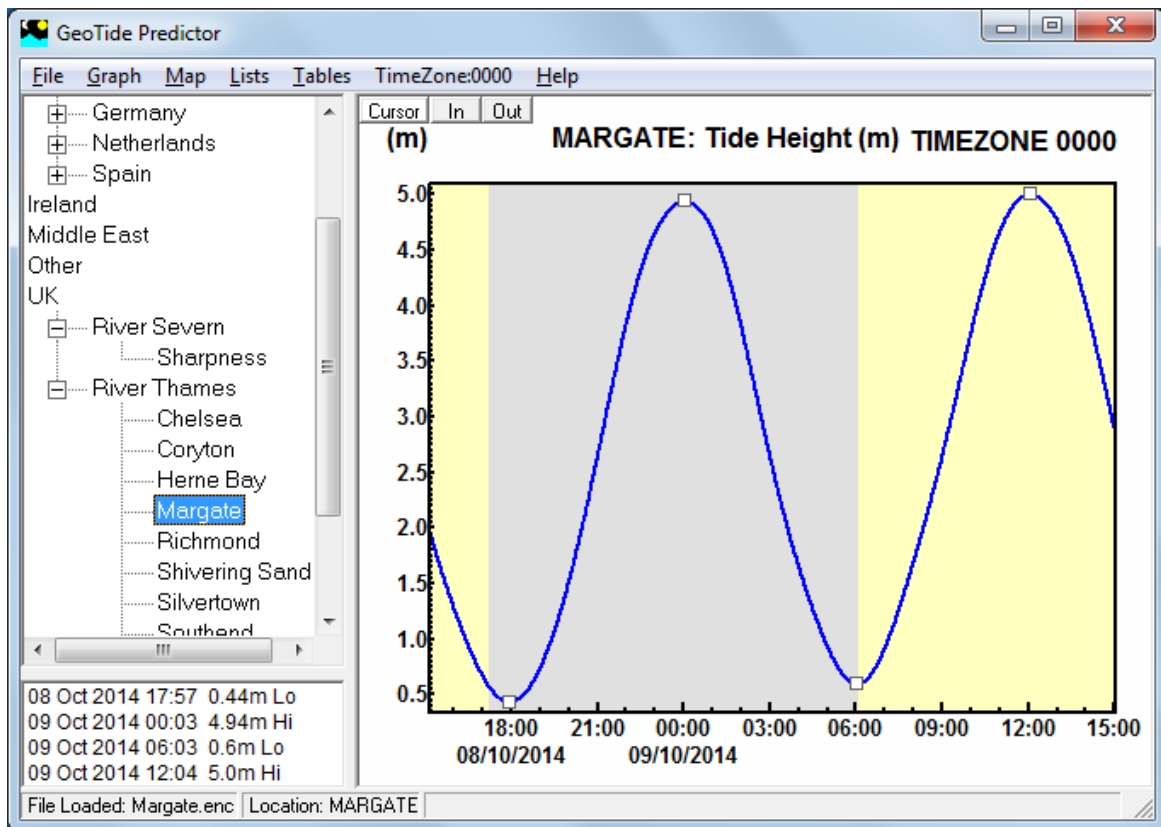


### Feature Summary

- Graphical Display of Tide
- Listings of Tidal Maxima and Minima
- Listings of Tide at Regular Intervals
- Listings of Tidal Windows (Access Times)
- Tables of Tide Height in Admiralty Style Format
- Display of Sunrise and Sunset Times
- Instant Cursor Readout.

While using **GeoTide Predictor**, you can enter F1 at any time to view the relevant help topic for that window or frame.

## 1.1 Main Screen



The main screen is used to select:-

- **Tidal Location**

These are the tidal harmonic constants which have been generated by the GeoTide Analyzer program. They are generally installed in the folder named "\TidalData" within the user program directory which is stored at "%appdata%\Geotide".

- **Type of Display**

Graph, Table, List, Map

- **Prediction Start Date**

The start date is used for Graphs, Tables & Lists to determine the starting date of tidal predictions.

- **Prediction Duration**

The prediction duration applies to Graphs, Tables & Lists and determines the duration of the tidal predictions.

Note that for Lists you can also select the type of List required.

The main screen is fully sizeable whether displaying graph, table, list or map.

At the lower edge of the main screen is the status bar which displays in three sections as follows:-

- **Left**

The selected file is displayed - initially with its full path name.

- **Centre**

The Tidal Location Name stored within the loaded file and also the now time used for displaying the now cursor line.

- **Right**

Cursor date-time or, if the window is being re-sized by the user, the image size in pixels.

This latter is useful for printing or exporting the image to the clipboard.

Note that all date-times are displayed in the time zone as displayed.

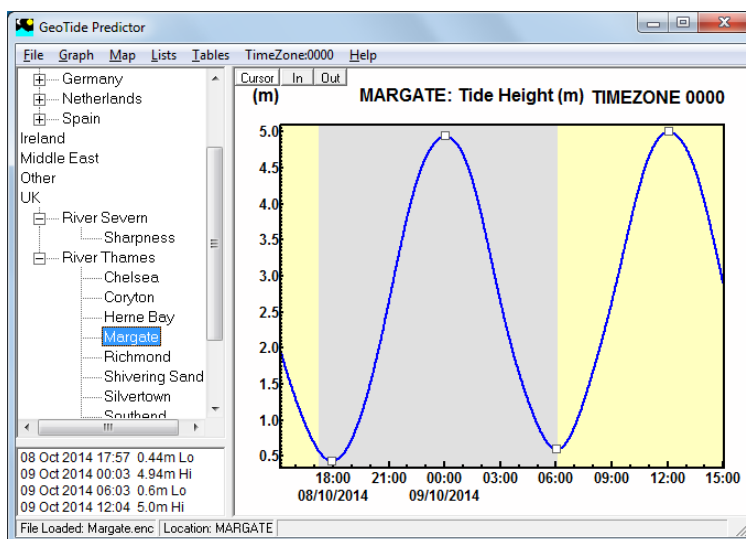
## 1.2 Getting Started

To run the program click the **GeoTide Predictor** on your start menu, or click the **GeoTide Predictor** icon on the desktop or click the executable file "GeoTide\_Predictor" or Predictor.

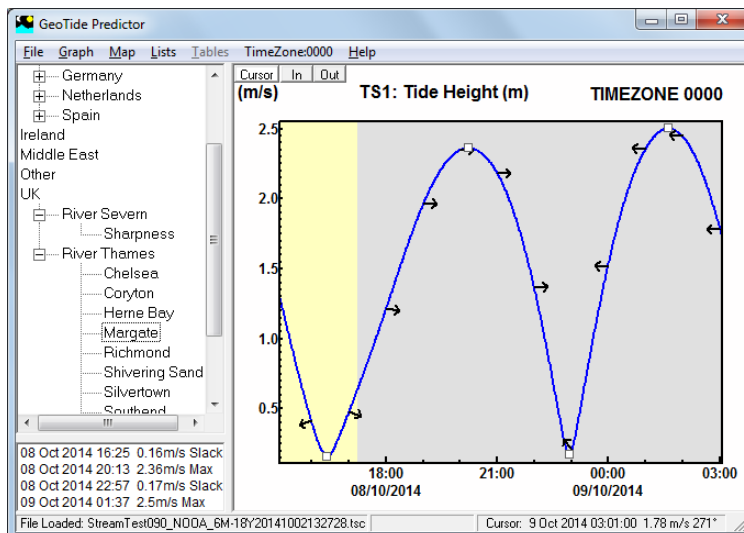
The program should first displays a splash screen while the various tidal locations are loading and the folder structure is being examined.



Click OK to proceed to the main **GeoTide Predictor** screen.







To make tidal predictions of tidal height or tidal streams you must first select a location. You will see several tidal locations displayed in the left hand panel. The exact display automatically mirrors the folder tree which contain the harmonic constants files on your computer. The harmonic constants files used by GeoTide Predictor have the file extensions ".tc1", ".tc2" and their encrypted files ".enc". If none are shown it is because you do not have any tidal locations in the default folder. In this case you can click File|Open to load a file from elsewhere.

### 1. Selecting a Tidal Location

To load a tidal location click the appropriate location at the left hand side of the screen. It operates in just the same way as windows explorer and other file managers, just click the folders with the mouse to expand or collapse them and to display their contents. Only those folders containing suitable files will be displayed.

### 2. Creating a Graph

Clicking a valid tidal location on the left hand side creates a tidal graph for today - spanning one day. It also enables all of the relevant top menus so you can view a map and create tide tables and tide listings. By clicking the **Graph** top menu option you can change the start date and time and the number of days displayed.

### 3. Creating a Map

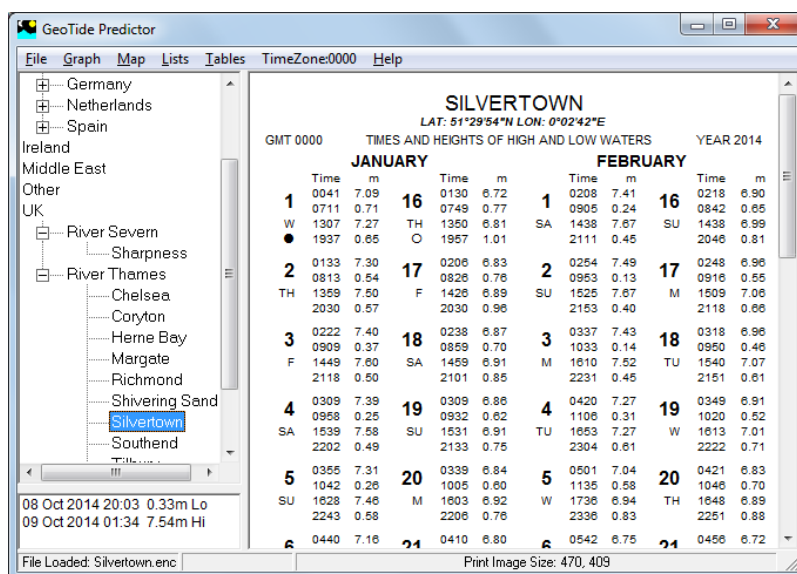
To view the location on a map, click the **Map** top menu option - this displays a map from a web based map service provider, such as Google maps or Open Street Map. This option requires that your computer has access to the internet. The map operation and its appearance depends upon the map service provider specified in your map configuration settings.

### 4. Creating Lists

You can create text based listings (using the top menu option **Lists**) of the following:

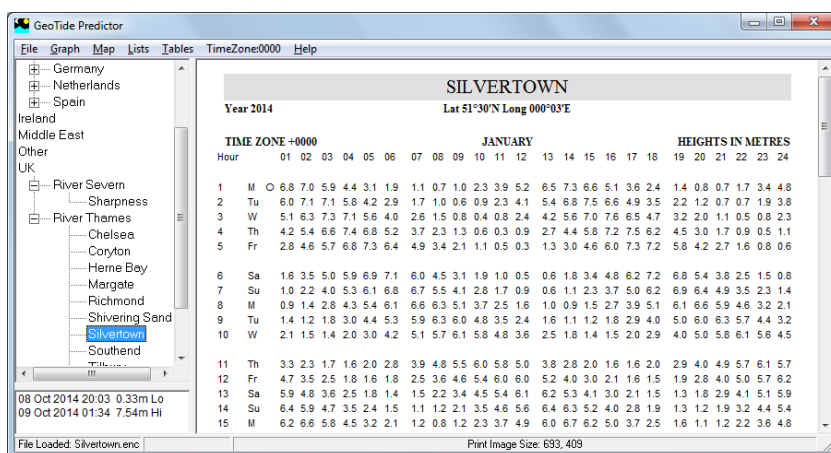
- Tides at Regular Intervals,
- High and Low Tides,
- Highest Tides,
- Lowest Tides,
- Tidal Windows (i.e access times)
- Tidal Stream Speeds and Direction,
- Tidal Stream Maximum Speed and Minimum Speed (slack tide)
- Fastest Predicted Tidal Streams
- Sunset and Sunrise Times
- Phases of the Moon,

These can all be exported to the clipboard (using the File | Export option) or printed out (using the File | Print option) as required.



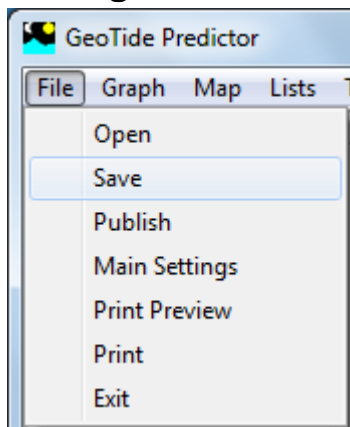
## 5. Creating Tables

Click the top menu option **Tables** to produce web ready and pdf ready tide tables\* of tidal heights, with two different types of table available - Tables of High and Low Tides and Tables of Hourly Tides. These layouts mirror as closely as possible the "industry standard" UKHO Admiralty style. The tables can be exported as html web pages to the clipboard, or saved as html or printed as pdf\*



\* These options require the Tables publishing option and the use of a third party pdf printer driver.

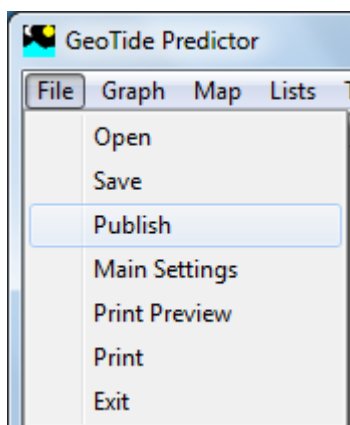
## 1.3 Saving



You can Use the File | Save menu option above to save the Graph, List, Map or Table which is displayed to a file.

The exact format used for saving depends upon the type of information which is currently displayed.

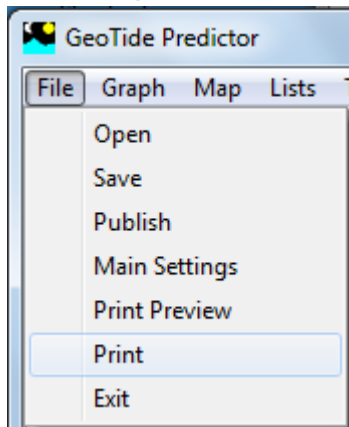
## 1.4 Publish



You can Use the File | Publish menu option to place the displayed Graph, List, Map or Table into a Publishing Package via the Clipboard.

This information in the clipboard can then be pasted into another application such as a Desktop Publisher or Word Processor.

## 1.5 Printing

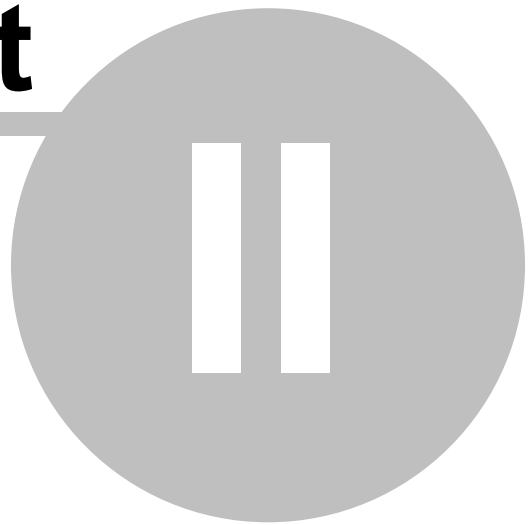


Click the **File | Print Preview** or **File | Print** menus to preview and or print the displayed data, whether it is a graph, table, list or map. Selecting a pdf printer driver will convert the table data to pdf\*.

\* Requires installation of 3rd party printer driver such as Adobe / Foxit or PDF995.

# Part

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## Menus

## 2 Menus

The top menu items are File, Graph, Table, List, Map, TimeZone and Help.



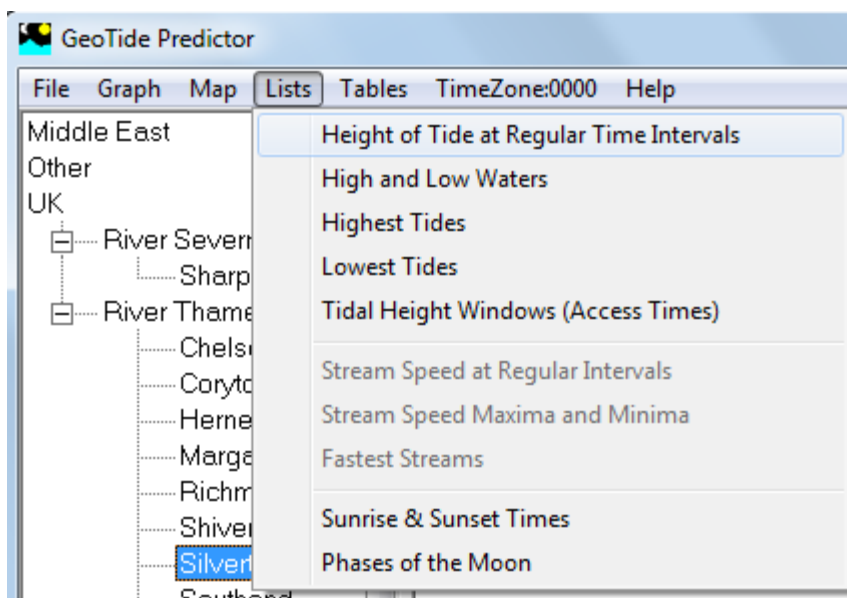
The submenu items are shown on the following pages.

**File** Displays the menus shown above.

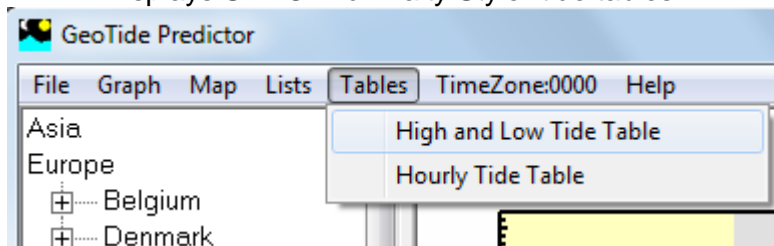
**Graph** Displays a self-scaling tidal graph

**Map** Displays a Map showing the tidal location.

**List** Select from one of the following options:-



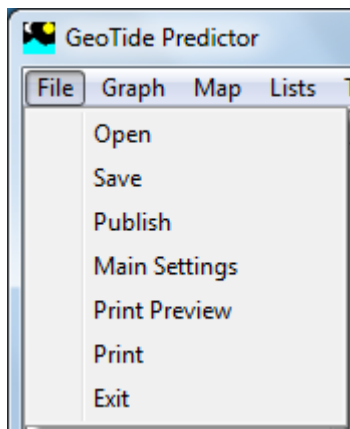
**Table** Displays UKHO "Admiralty Style" tide tables.



**Help** Displays this help file.

**Exit** To quit the system.

## 2.1 File Menu



Click the File Menu to displays the options shown below

### File

#### Open

Selects and opens a tidal file. Used when a file is not within the default folder and so is not displayed on the location tree..

#### Save

Saves the Graph, Table, List or Map to the user specified file.

#### Publish

The currently displayed Graph, Table, List or Map is exported via the clipboard for inclusion in a DTP or Word Processor.

#### Main Settings

Enables the general configuration to be changed by displaying the Main Settings form.

#### Print Preview

The currently displayed Graph, Table, List or Map may be previewed before printing.

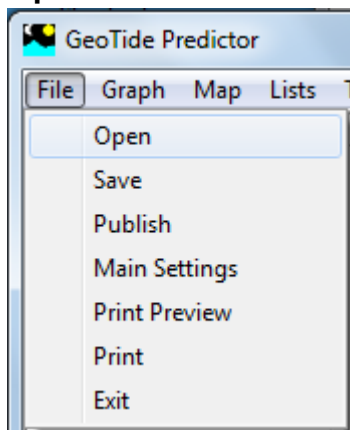
#### Print

The currently displayed Graph, Table, List or Map is printed.

#### Exit

Use exit to close down the program. If changes have been made to the settings / configuration you will be prompted to ask whether you wish to save the new settings.

### 2.1.1 Open

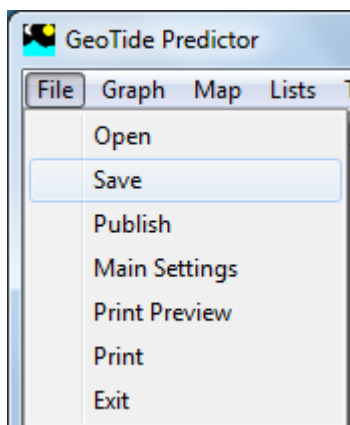


#### Open

Click to open a specific tidal file which is not shown on the tidal tree. This option is useful when a location is not displayed on the location tree because it is not within the default tidal locations folder.

The default folder is usually named "\TidalData" and is located within the user program directory which is stored at "%appdata%\Geotide".

### 2.1.2 Save



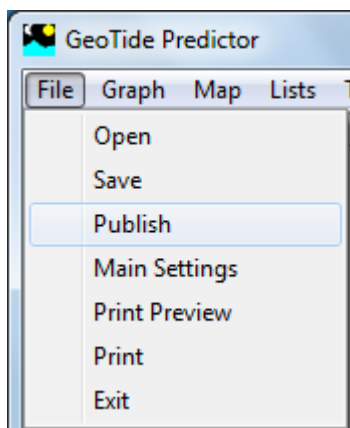
#### Save

Click to save the Graph, Table, List or Map to the user specified file as follows:-

- Graph is saved as a bitmap with default file extension '.bmp'.
- Table is saved as html (web page) with default file extension '.htm'.
- List is saved as text with default file extension '.txt'.
- Map is saved as bitmap with default file extension '.bmp'..



### 2.1.3 Publish



#### Publish

Click to place the currently displayed Graph, Table, List or Map in the clipboard for onward incorporation in a document in a Desk Top Publishing Package or Word Processor.

In most cases, the clipboard contents can be directly viewed in e.g. Microsoft Word by using its Paste-Special menu option.

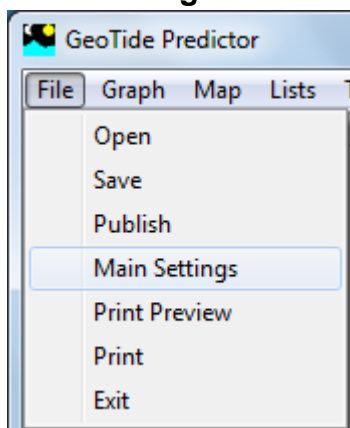
The data is formatted as follows:-

- Graph is exported as a device independent bitmap.
- Table is exported as an html (web page).
- List is exported as standard text, Unicode text and as an html (web page).
- Map is exported as device independent bitmap.

#### Alternative Export Routes

- Via a Printer Driver.  
If you have a suitable 3rd party printer driver installed you can use the Print menu to export documents via a printer driver.  
For example you can install the Adobe or Foxit printer drivers to export the documents in PDF.
- Via Clipboard Selection.  
On tables and lists you can right click the pane itself and use the usual windows keyboard shortcuts - Ctrl A to select all and Ctrl C to copy to the clipboard.

### 2.1.4 Main Settings



#### Main Settings

Click this option to change the general configuration on the main settings form.

#### 2.1.4.1 Main Settings

Clicking the File | Settings menu on the main screen displays the main settings window below.

This window is used to set:-

- The appearance of Under Keel Clearance Information throughout the program which is displayed on the Graph and List panes.
- The path (folder location) to the tidal data.
- Whether the rise and fall information is displayed on the main screen.

#### Command Buttons

- **Use Default**

Restores the settings to the 'factory' default settings without closing this window.

- **Cancel**

Closes the window ignoring any changes you may have made.

- **OK**

Closes the window implementing any changes you may have made, including using the default button.

The active items are:

#### Display Under Keel Clearance

Check this box to display Under Keel Clearance (UKC) on the graph and list panes. When activated the vessel draft and charted depth are used to calculate the level at which the vessel would just float / run aground. This line, called here the UKC line, is also drawn on the graph and is also used to change the colour of the graph. On the list view it is used to calculate the tide windows (clear passage times) and the UKC

figures.

**Vessel Draught**

Enter here the vessel draft in meters.

**Charted Depth**

Enter here the charted depth in meters.

**Load Tidal Locations at Startup**

Check this box to force GeoTide to load the locations files at startup.

Uncheck to enable you to load or reload the location manually at any time.

**Startup Tidal Locations Folder**

Enter here the the path to the tidal data. If the path entered begins with "\" it will be treated as being relative to the "%APPDATA%\Geotide" folder (i.e. the folder referred to by the environment variable APPDATA) otherwise it will be treated as being an absolute path. The default setting is the folder \TidalData. You should ensure there is a folder of this name within the path specified containing the relevant '.tc1' harmonic constants files. The system also searches the sub-folders of this folder, enabling you to set up a cascading folder structure on the main screen display.

**YMin (m)**

The value in this box fixes the minimum Y (tide height) value of the graph. Entering nothing, i.e. blank, makes the lower axis setting automatic.

**YMax (m)**

The value in this box fixes the maximum Y (tide height) value of the graph. Entering nothing, i.e. blank, makes the upper axis setting automatic.

**Display Rise and Fall from Now**

Check this box to determine whether the rise and fall information is displayed on the main screen.

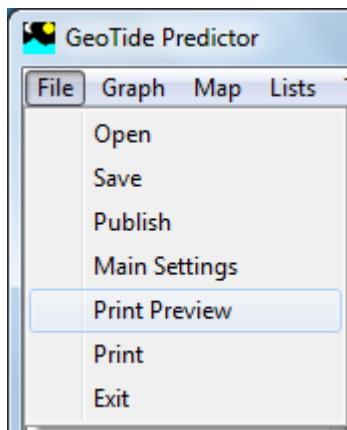
**Remove Standing / Extra Tides**

Check this box to remove extra standing tides where multiple highs or lows are predicted. This setting affects the turning points identified on the graph, the tidal listing of high and low tides and the tide table.

**Encryption Password**

The password used internally to read the encrypted tidal record files. This must exactly match the password entered in GeoTide Analyzer to encrypt the files. The password can be an empty string of characters i.e. blank, when a blank password is used at either end the files are still encrypted, although a non blank password provides much more security.

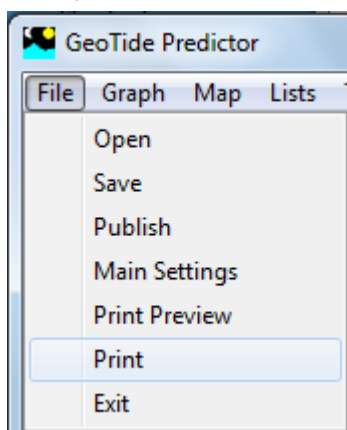
### 2.1.5 Print Preview



#### Print Preview

Click this option to preview the currently displayed Graph, Table, List or Map before printing. Here the scale, orientation and headers and footers may be defined. The exact nature of the displayed window depends upon your computer operating system (Microsoft Windows version) and your installed version and set up of Microsoft Windows Explorer.

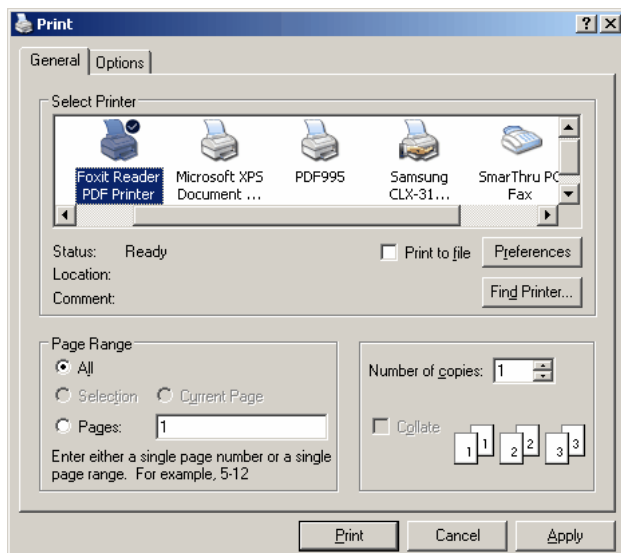
### 2.1.6 Print



#### Print

Click to print the currently displayed Graph, Table, List or Map. The exact nature of the displayed window depends upon your computer operating system (Microsoft Windows version) and your installed version and set up of Microsoft Windows Explorer. Selecting a pdf printer driver will convert the tables, listings or graphs to pdf\*.

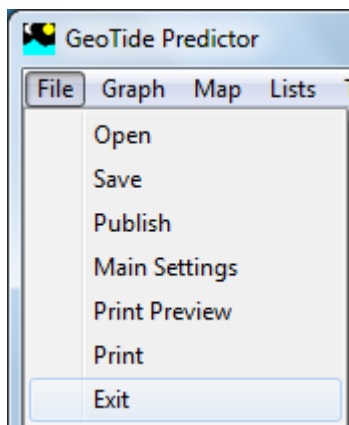
The printer output may be further scaled using the Print Preview menu options. The exact nature of the Print Preview Window depends upon the setup and operating system of your computer.



**Print Option in Windows XP showing installed printer device drivers in this case Foxit and PDF99 Printer Devices**

\* Printing to PDF requires the use of a 3rd party pdf printer driver, e.g. Adobe, Foxit or Pdf995.

### 2.1.7 Exit

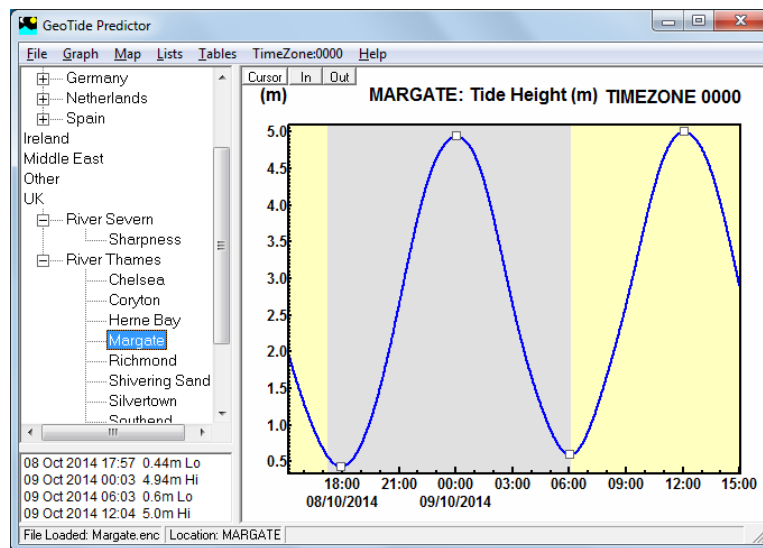


#### Exit

Use exit to close down the program. If changes have been made to the settings / configuration you will be prompted to ask whether you wish to save the new settings.

## 2.2 Graph Menu

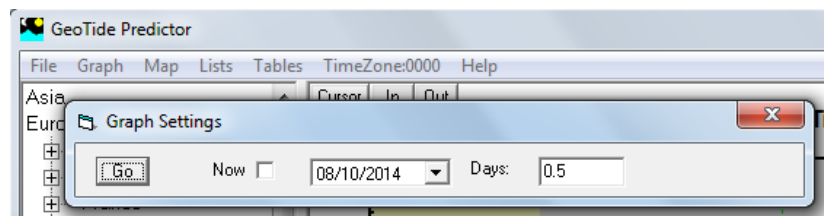
Clicking the Graph menu **once** changes the display to the Graphical Pane (shown below).



When you select a location the graph will automatically be displayed.

The graph pane can display either a graph of the height of the tide or a graph of the speed of a tidal stream. Tidal streams can be either 1Dimensional or 2Dimensional, depending on the type of tidal location file which is selected. When a 2Dimension tidal stream is being displayed, arrows are superimposed upon the graph, indicating the heading of the stream in degrees. If a location is not selected the pane will remain blank.

Clicking the Graph menu **again** displays the Graph Settings Window below.



Here you can enter the start date and the duration. Checking the Now checkbox causes the time now to also be displayed as a moving cursor.

### Date box

Use the date box to select the date and time for the start of the graph.

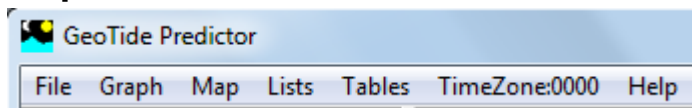
### Now

Check the box on the Graph Settings Window to create a graph which displays the current time and date at a fixed point on the graph - default is set to center. The graph is redrawn at regular time intervals so the time axis will slowly scroll to the left across the graph display.

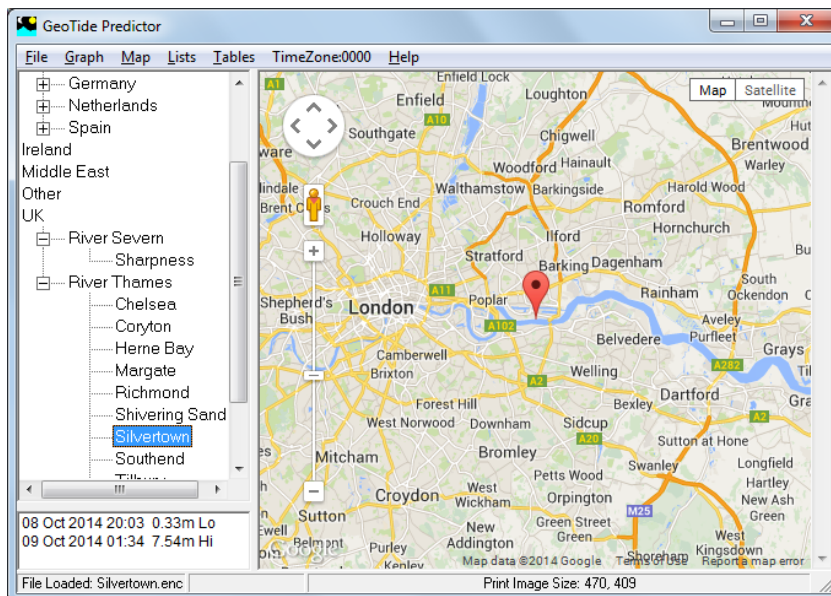
### Days Text box

The duration of the graph may be changed by entering the appropriate number of days in the days in the text box provided.

## 2.3 Map Menu

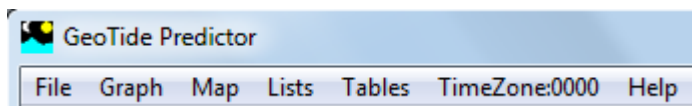


Clicking the Map top menu changes the display to the Map Pane shown below,

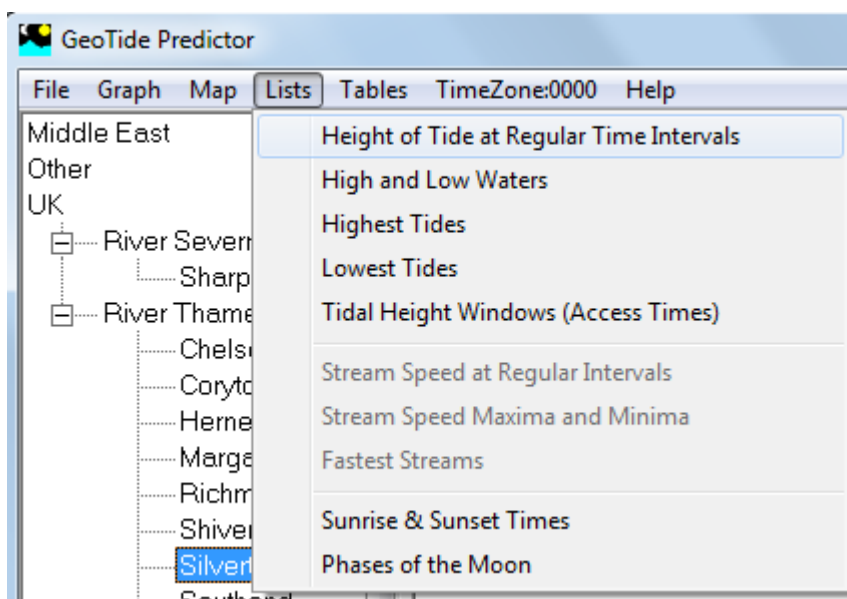


The exact operation of the map depends on your chosen internet map provider

## 2.4 List Menu



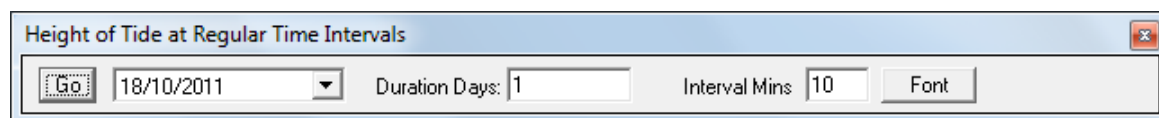
Clicking the List top menu displays the choice of list types shown below.



The options are:-

- Tides at Regular Intervals
- High and Low Tides
- Highest Tides
- Lowest Tides
- Tidal Windows (i.e access times)
- Tidal Stream Speeds and Direction at Regular Intervals
- Tidal Stream Maxima and Minima (i.e. peak and slack tide)
- Fastest Predicted Tidal Streams
- Sunset and Sunrise Times
- Phases of the Moon

Select the type of list you require and you will be able to set the relevant parameters for that list selection.



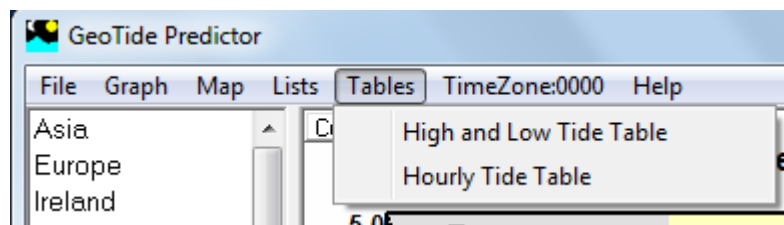
The following variations apply.

- On *High, Low, Maximum Speed, Minimum Speed* you can set the font, start date and duration.
- On *Regular Intervals for Tides and Tidal Streams* you can also specify the time interval.
- On *Highest, Lowest and Fastest Tides* you can also specify the number of highest, lowest, or fastest tides you wish to list for display.
- On all *Tidal Height related options* you can specify the vessel's Draught and the Charted Depth so that the Under Keel Clearance can be included on the tidal listing. Draught and Charted Depth can be set on the Main Settings Menu Option under the File Menu

Click **Go** to fill the list pane with the requested list. A progress window is displayed whilst the requested list is being prepared. During this list preparation phase you can click **Abort** on the progress window to cancel the process.

## 2.5 Table Menu

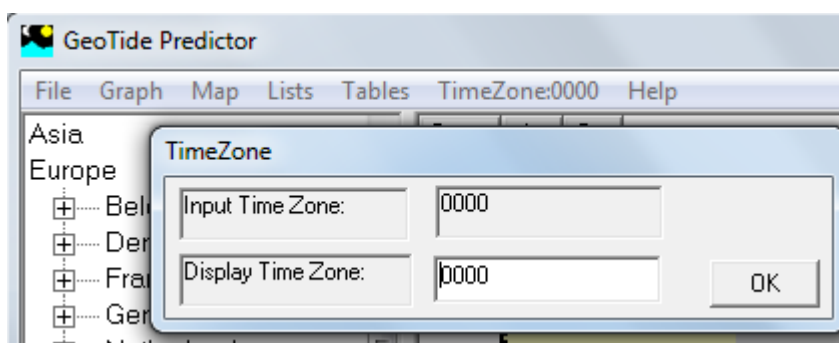
Clicking the Table menu displays the choice of table types - High and Low Tide-Table or Hourly Tide-Table



Clicking Go fills the table pane with an "Admiralty Style" Tide Table. A progress window is displayed whilst the requested table is being prepared. During the preparation phase you can click the button labelled **Abort** on the progress window to cancel the process.



## 2.6 TimeZone



Click the top time zone menu to change the time zone used for display purposes.

This facility enables you to manually account for time zone changes, for example for Daylight Saving Time or when you require to display a tidal prediction in a different time zone from that originally specified.

It affects the graph, tide listing and table listing facilities.

For safety the facility does not automatically use the daylight savings time corrections provided by Microsoft Windows as these are not always 100% reliable. In any event most mariners use either GMT (UT) or the standard time zone i.e. without the daylight savings adjustments.

The value is not stored and the system always starts in the standard time recorded in the tidal constants file.

## 2.7 Help Menu



Clicking the help menu displays the help sub menu shown below.

Clicking the help menu displays the help sub menu shown which enables you to access the help system via the index, search or contents page.

The appropriate help can also generally be displayed by pressing the F1 key on the computer keyboard.

### Index

Opens the help file on the "Index" page.

### Find

Opens the help file on the "Find" page.

### Contents

Opens the help file on the "Contents" page.

**Geomatix website**

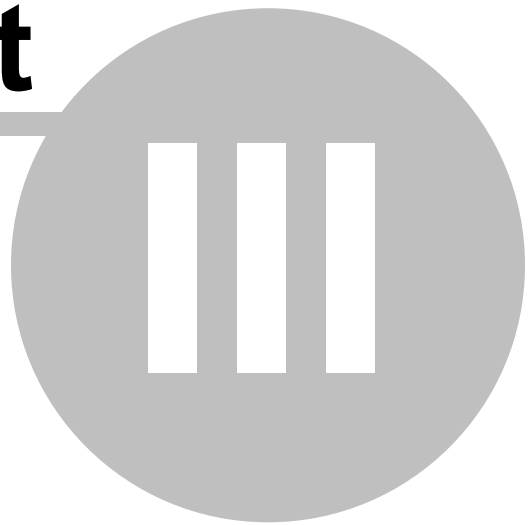
Opens a web browser on the Geomatix website.

**About**

Displays version and other information about this program.

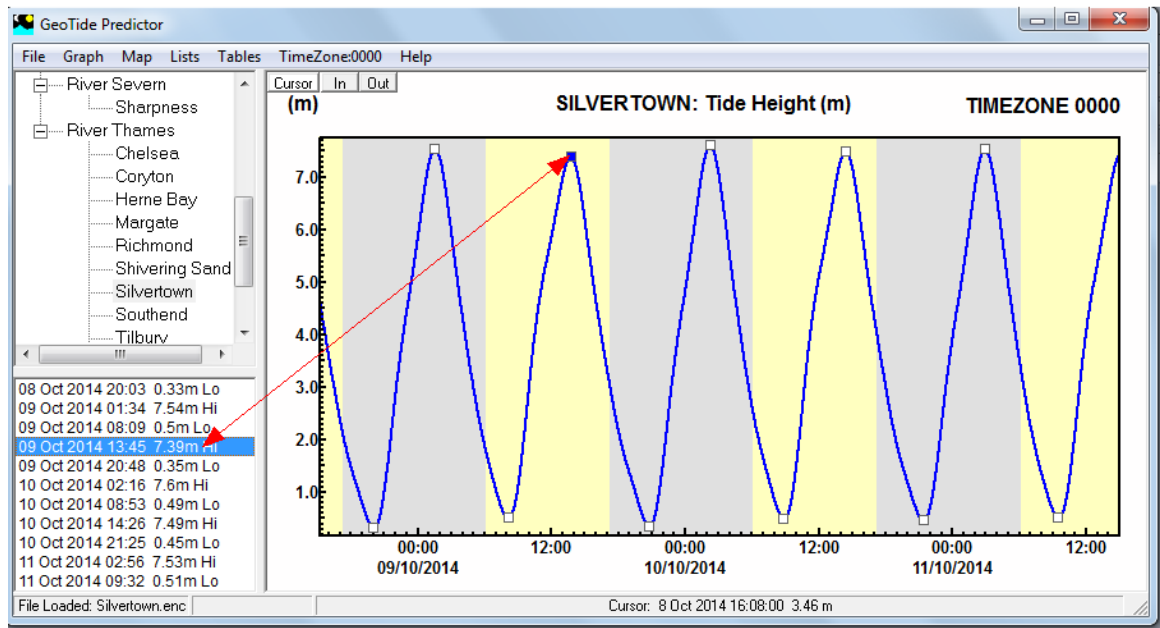
# Part

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## Panes

### 3 Panes



There are three panes within the GeoTide Predictor Display. The purpose of the panes is as shown above.

All of the panes can be resized by dragging the boundary lines between using the mouse.

The outside window can also be resized, maximised and minimised.

The top menu options control the type of Display in the Right Pane:-

**Graph** Draws a graph for the tide at the selected tidal location.

**Map** Displays a Map showing the selected tidal location.

**Table** Creates UKHO style tide tables primarily in HTML.

**List** Creates a number of different lists of tidal predictions primarily in ASCII text.

#### Location

The location pane (upper left) enables you to select the tidal location and to navigate the file/folder structure in which they are situated on the operating system.

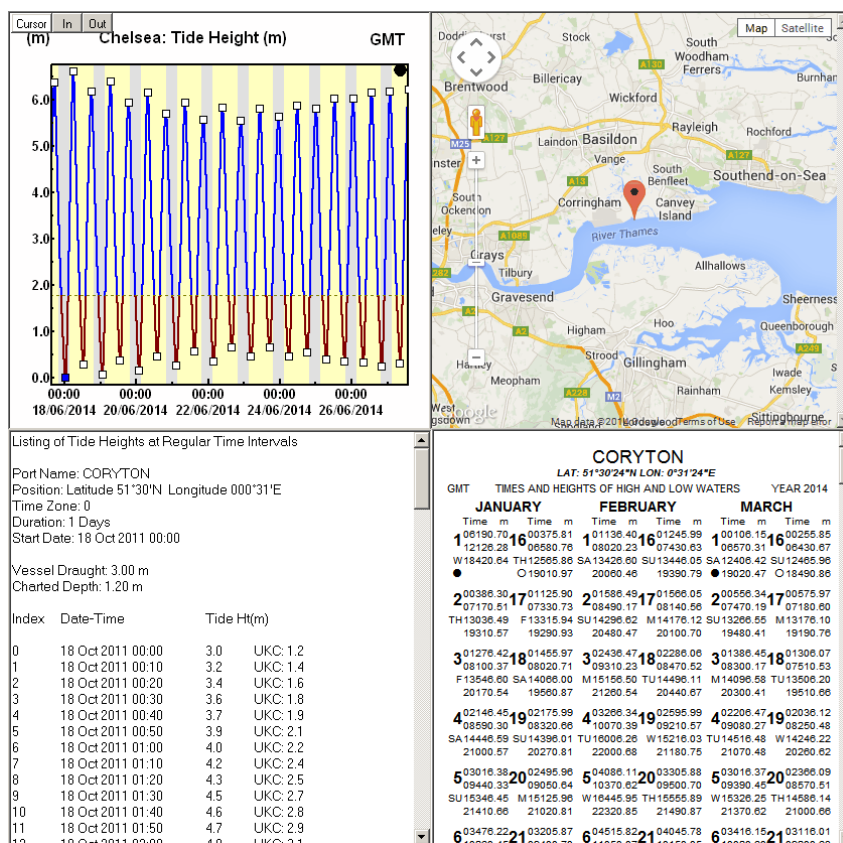
You can also use the File | Open menu option to load a file which is not in the default tidal location folder (or its sub-folders)

Clicking the chosen location causes a tidal graph to be displayed in the Display Pane.

#### High and Low

The High and Low Selection pane (lower left) displays the high and low tide height and time, or in the case of streams the maximum and minimum speeds, and their headings. Clicking the items in this pane selects the relevant turning point on the graph and vice versa as shown by the red arrows.

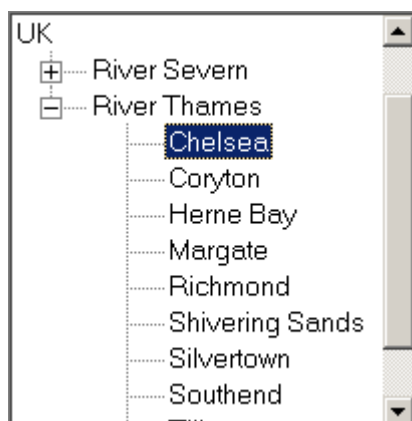
## 3.1 Panes



The right hand pane can display the following types of information:-

- Graphs
- Maps
- Tide Listings - 6 different types
- Tide Tables - 2 different types

## 3.2 Location



Clicking the chosen location causes a tidal graph to be displayed in the Display Pane.

### Changing the Root Folder

The root folder is specified in the Main Settings panel and is generally set to the folder named "TidalData" within the program installation folder.

Files with extension .enc or .tid are displayed while all other files are not displayed.

### Changing Locations Displayed

The location which are displayed may be changed by adding the relevant .tid or .enc files to the relevant sub-folders.

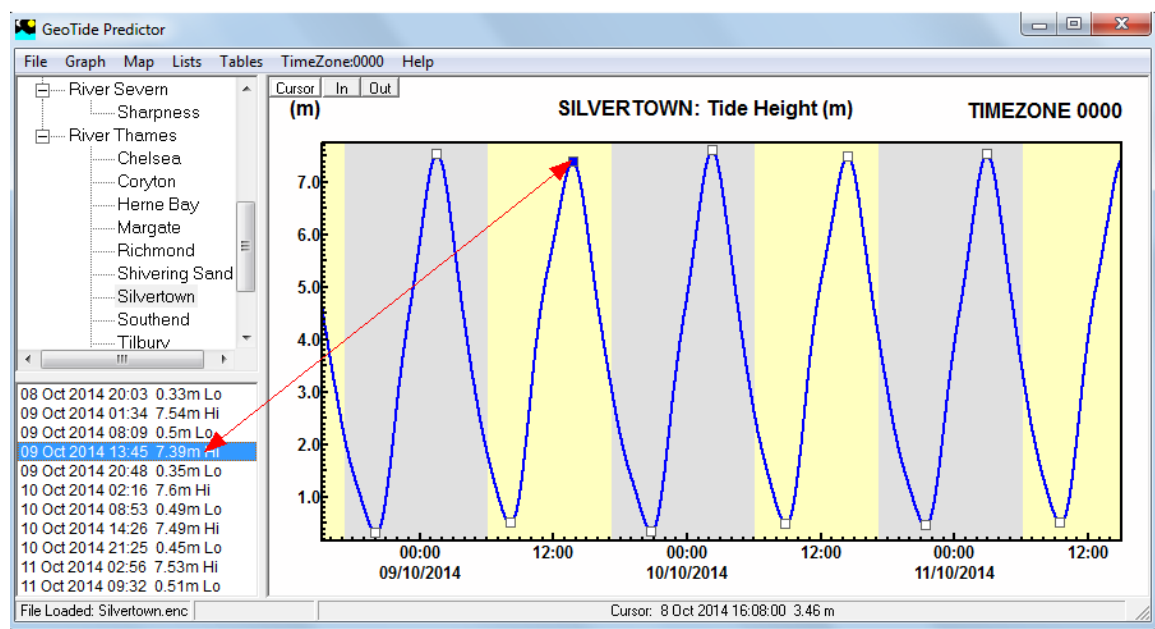
Any number of folders and tidal locations may be created - however too many will result in slow loading of the program.

You can create new harmonic constants files from tide gauge data using the GeoTide Analyzer. The files are of the type (.tid) or encrypted versions (.enc). Please see the GeoTide Analyzer help file for more details.

Note: You can also use the File | Open menu option to load a file which is not in the default tidal location folder (or its sub-folders)

## 3.3 Graph

Click the Graph menu to change the display to the Graphical Pane (shown below)



The window contains a frame containing the zoom and cursor controls and graphical pane. The graph displays a curve showing tidal height, and the high and low tide times as small square boxes with a corresponding sizeable list on the lower left hand side of the window. The graph background is coloured for daytime and night-time and if the Under Keel Clearance (UKC) settings box is ticked in the Main Settings window, the curve is coloured according to whether a vessel of given draught would be aground or afloat. The vertical axis shows the height of the tide above chart datum (CD), while the charted depth is shown as a horizontal line on the graph relative to chart datum. The green vertical and horizontal dotted lines are the graphic cursor readout facility which can be dragged left and right using the mouse. When the mouse is moved the readout of tide height and under keel clearance at the upper edge of the graph is updated. The time now is displayed a vertical purple dotted line provided the Now checkbox is ticked on the Graph Settings Window. In this case the predicted rise and fall to the next high and low tides is also drawn in a dotted line. This information is also displayed in the lower status bar on the window.

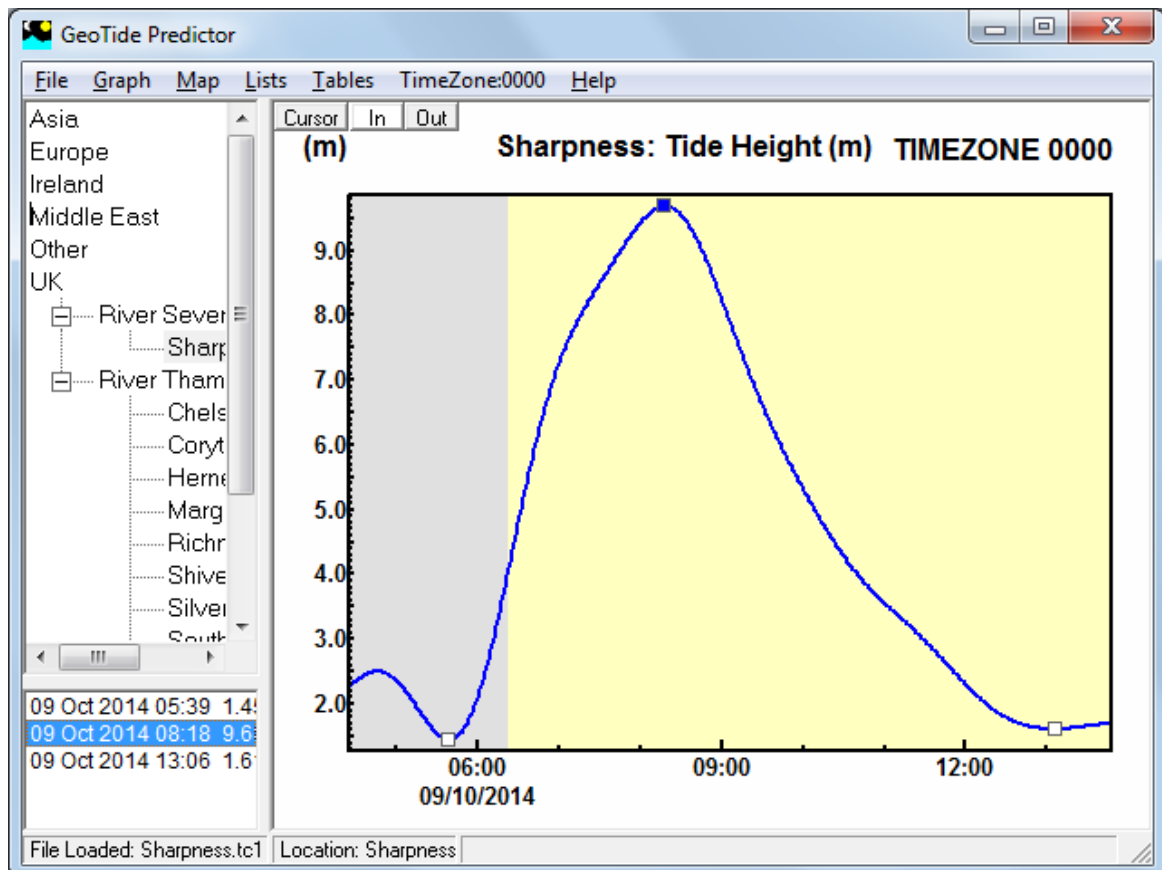
### Panning Graph Left and Right

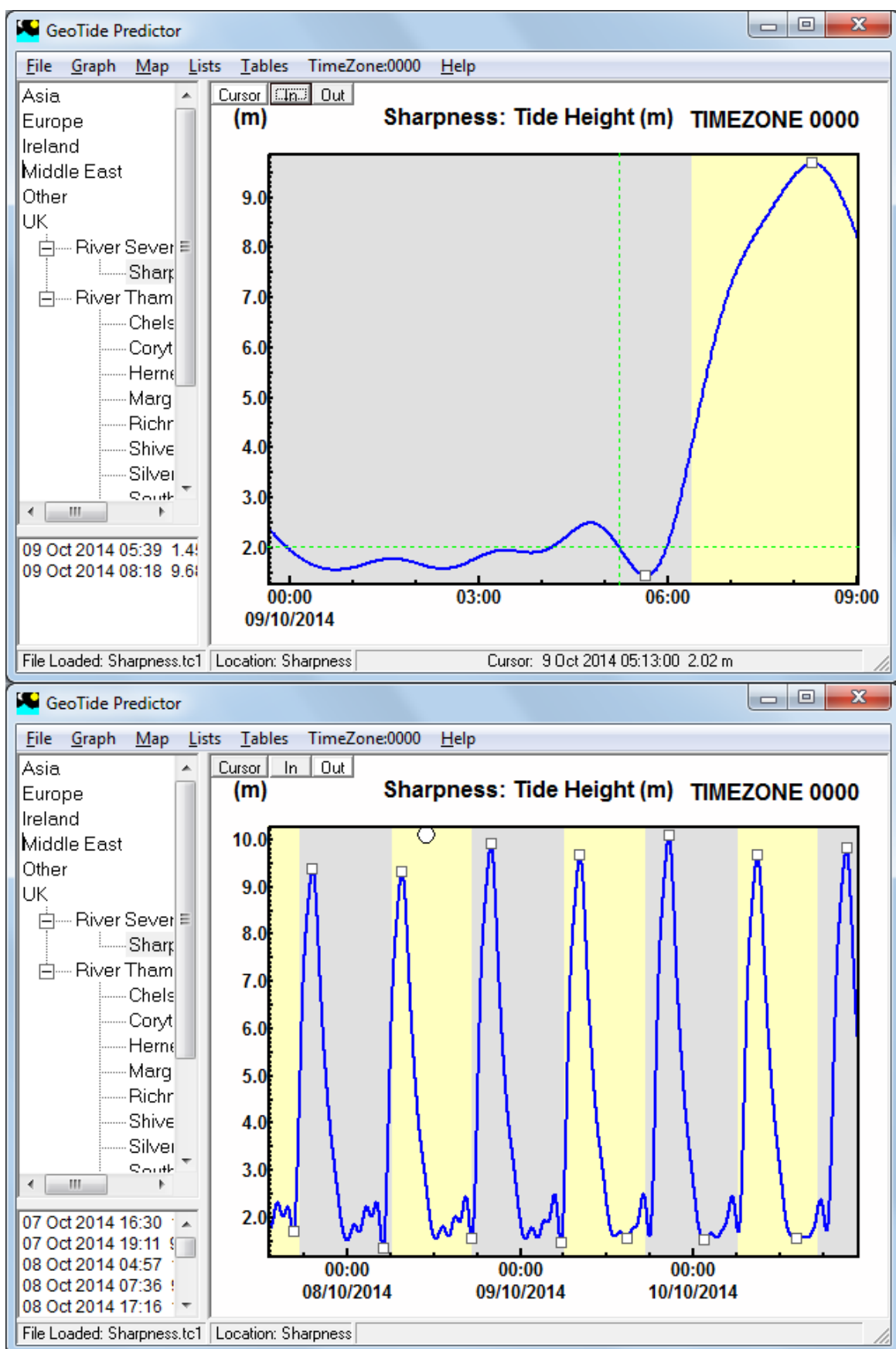
The graph can be panned (moved left and right) by dragging it with the mouse. To do this hold down the left mouse button and move the mouse cursor according to standard

convention. When you have finished dragging simply release the left mouse button to restore the cursor readout.

### Zooming In and Out

The graph can be zoomed in or out by using the buttons labelled **In** and **Out**. When you have finished zooming click the **Cursor** button to restore the cursor readout. You can also click and drag the mouse to zoom in onto the portion of the graph you wish to inspect.



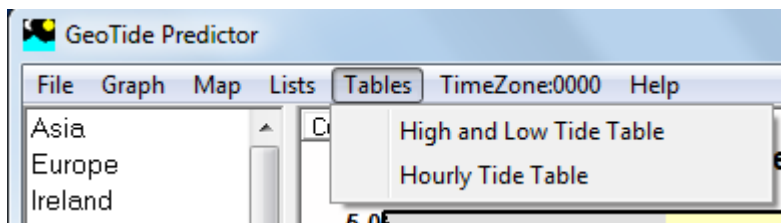


Many of the graph properties may be changed in the Graph Settings window.

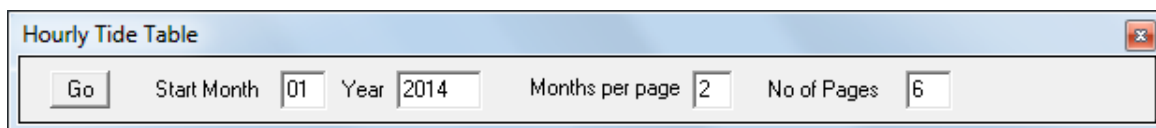


### 3.4 Table

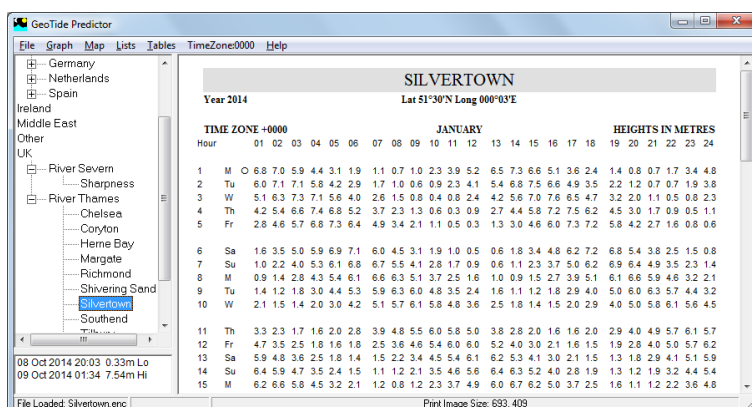
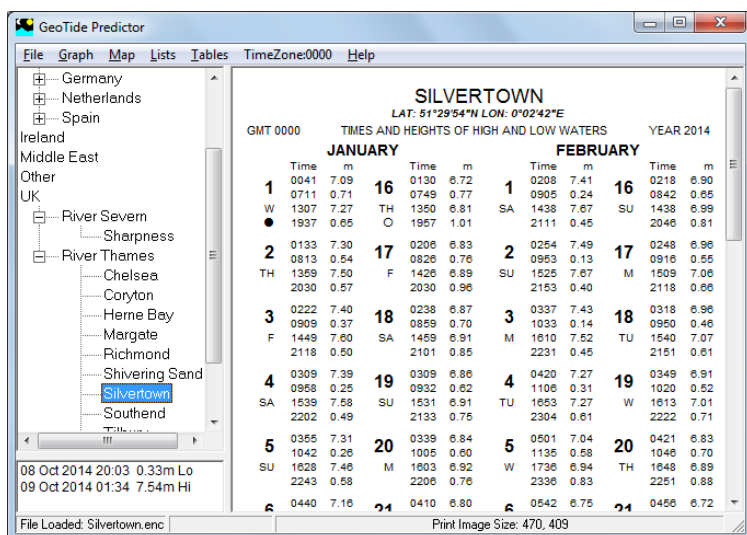
The Table Pane below is accessed via the Table top menu.



Selecting either option displays the respective dialogue requesting the user for further information as shown below.

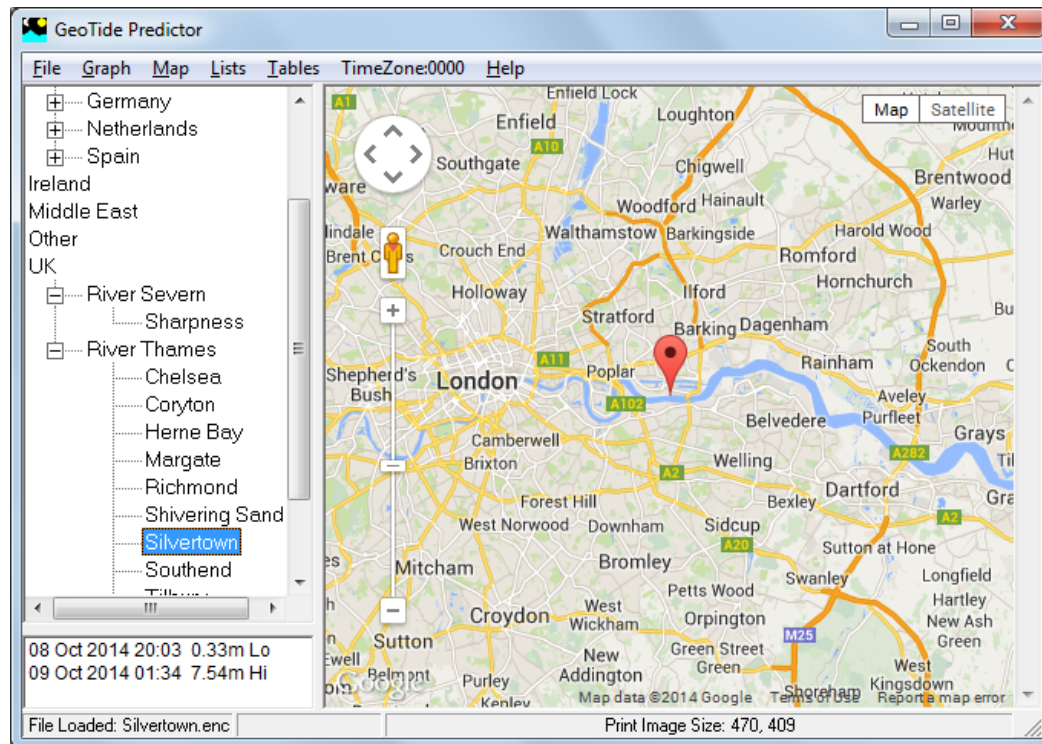


The displayed table of tidal heights can be printed out or exported using the options on the File menu.



### 3.5 Map

Clicking the Map menu changes the display to the Map Pane shown below,



The map displays the position of the tidal location which has been selected in the left hand pane. The map automatically resizes when the main window is re-sized. Use the cursor, pan and zoom in / out buttons to move the map and change its scale.

The map properties are set in the Map Settings window which is displayed by clicking the settings button.

# Part

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# IV

## Tables

## 4 Tables

In GeoTide Predictor tables are designed as a layout object and are laid out in a more complex way than Lists so that they can more closely resemble Hydrographic Office Styles. Tables can be printed out (converted to PDF with an appropriate PDF Printer Driver) or moved to a desktop publishing package. Tables should not be used to transfer individual predictions to databases, spreadsheets or similar documents. For this latter purpose lists are more appropriate.

Tables are not currently available for Tidal Streams.

There are two types of table available:- High and Low Tables and Hourly Tables, these are shown below.

**SILVERTOWN**  
LAT: 51°29'54"N LON: 0°02'42"E

GMT 0000 TIMES AND HEIGHTS OF HIGH AND LOW WATERS YEAR 2014

JANUARY			FEBRUARY		
Time	m		Time	m	
1 0041	7.09		1 0130	6.72	
0711	0.71		0749	0.77	
W 1307	7.27	TH	1350	6.81	SA
1937	0.65	O	1957	1.01	
2 0133	7.30		2 0206	6.83	
0813	0.54		0826	0.76	
TH 1359	7.50	F	1426	6.89	SU
2030	0.57		2030	0.96	
3 0222	7.40		3 0238	6.87	
0909	0.37		0859	0.70	
F 1449	7.60	SA	1459	6.91	M
2118	0.50		2101	0.85	
4 0309	7.39		4 0309	6.86	
0958	0.25		0932	0.62	
SA 1539	7.58	SU	1531	6.91	TU
2202	0.49		2133	0.75	
5 0355	7.31		5 0339	6.84	
1042	0.26		1005	0.60	
SU 1628	7.46	M	1603	6.92	W
2243	0.58		2206	0.76	
6 0440	7.16		6 0410	6.80	
			0542	6.75	
			0456	6.72	

File Loaded: Silvertown.enc Print Image Size: 470, 409

**SILVERTOWN**  
Lat 51°30'N Long 000°03'E

Year 2014

TIME ZONE +0000

Hour	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 M	6.8	7.0	5.9	4.4	3.1	1.9	1.1	0.7	1.0	2.3	3.9	5.2	6.5	7.3	6.6	5.1	3.6	2.4	1.4	0.8	0.7	1.7	3.4	4.8
2 Tu	6.0	7.1	7.1	5.8	4.2	2.9	1.7	1.0	0.6	0.9	2.3	4.1	5.4	6.8	7.5	6.6	4.9	3.5	2.2	1.2	0.7	1.9	3.8	
3 W	5.1	6.3	7.3	7.1	5.6	4.0	2.6	1.5	0.8	0.4	0.8	2.4	4.2	5.6	7.0	7.6	6.5	4.7	3.2	2.0	1.1	0.5	0.8	2.3
4 Th	4.2	5.4	6.6	7.4	6.8	5.2	3.7	2.3	1.3	0.6	0.3	0.9	2.7	4.4	5.8	7.2	7.5	6.2	4.5	3.0	1.7	0.9	0.5	1.1
5 Fr	2.8	4.6	5.7	6.8	7.3	6.4	4.9	3.4	2.1	1.1	0.5	0.3	1.3	3.0	4.6	6.0	7.3	7.2	5.8	4.2	2.7	1.6	0.8	0.6
6 Sa	1.6	3.5	5.0	5.9	6.9	7.1	6.0	4.5	3.1	1.9	1.0	0.5	0.6	1.8	3.4	4.8	6.2	7.2	6.8	5.4	3.8	2.5	1.5	0.8
7 Su	1.0	2.2	4.0	5.3	6.1	6.8	6.7	5.5	4.1	2.8	1.7	0.9	0.6	1.1	2.3	3.7	5.0	6.2	6.9	6.4	4.9	3.5	2.3	1.4
8 M	0.9	1.4	2.8	4.3	5.4	6.1	6.6	6.3	5.1	3.7	2.5	1.6	1.0	0.9	1.5	2.7	3.9	5.1	6.1	6.6	5.9	4.6	3.2	2.1
9 Tu	1.4	1.2	1.8	3.0	4.4	5.3	5.9	6.3	6.0	4.8	3.5	2.4	1.6	1.1	1.2	1.8	2.9	4.0	5.0	6.0	6.3	5.7	4.4	3.2
10 W	2.1	1.5	1.4	2.0	3.0	4.2	5.1	5.7	6.1	5.8	4.8	3.6	2.5	1.8	1.4	1.5	2.0	2.9	4.0	5.0	5.8	6.1	5.6	4.5
11 Th	3.3	2.3	1.7	1.6	2.0	2.8	3.9	4.8	5.5	6.0	5.8	5.0	3.8	2.8	2.0	1.6	1.6	2.0	2.9	4.0	4.9	5.7	6.1	5.7
12 Fr	4.7	3.5	2.5	1.8	1.6	1.8	2.5	3.6	4.6	5.4	6.0	6.0	5.2	4.0	3.0	2.1	1.6	1.5	1.9	2.8	4.0	5.0	5.7	6.2
13 Sa	5.9	4.8	3.6	2.5	1.8	1.4	1.5	2.2	3.4	4.5	5.4	6.1	6.2	5.3	4.1	3.0	2.1	1.5	1.3	1.8	2.9	4.1	5.1	5.9
14 Su	6.4	5.9	4.7	3.5	2.4	1.5	1.1	1.2	2.1	3.5	4.6	5.6	6.4	6.3	5.2	4.0	2.8	1.9	1.3	1.2	1.9	3.2	4.4	5.4
15 M	6.2	6.6	5.8	4.5	3.2	2.1	1.2	0.8	1.2	2.3	3.7	4.9	6.0	6.7	6.2	5.0	3.7	2.5	1.6	1.1	1.2	2.2	3.6	4.6

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These are more fully described in the following pages.

### 4.1 High and Low Tide Table

High and Low Tide Tables can be accessed simply from the top Table Menu. Initially the following window is displayed.

**High and Low Tide Table**

Go Start Month 01 Year 2014 Months per page 2 No of Pages 6

Here the user may set the start date, the number of months per page and the number of

pages.

The screenshot shows the GeoTide Predictor application window. On the left is a location tree with 'UK' expanded and 'River Thames' selected, with 'Silvertown' highlighted. The main area displays tide data for 'SILVERTOWN' (LAT: 51°29'54"N LON: 0°02'42"E) for the year 2014. The data is presented in a calendar-style table for January and February, showing times and heights of high and low waters in GMT 0000. The status bar at the bottom indicates 'File Loaded: Silvertown.enc' and 'Print Image Size: 470, 409'.

SILVERTOWN LAT: 51°29'54"N LON: 0°02'42"E											
GMT 0000 TIMES AND HEIGHTS OF HIGH AND LOW WATERS YEAR 2014											
JANUARY						FEBRUARY					
Time	m		Time	m		Time	m		Time	m	
1	0041 7.09		16	0130 6.72		1	0208 7.41		16	0218 6.90	
	0711 0.71			0749 0.77			0905 0.24			0842 0.65	
W	1307 7.27	TH	1350 6.81		SA	1438 7.67		SU	1438 6.99		
●	1937 0.65	O	1957 1.01			2111 0.45			2046 0.81		
2	0133 7.30		17	0206 6.83		2	0254 7.49		17	0248 6.96	
	0813 0.54			0826 0.76			0953 0.13			0916 0.55	
TH	1359 7.50	F	1426 6.89		SU	1525 7.67		M	1509 7.06		
	2030 0.57		2030 0.96			2153 0.40			2118 0.66		
3	0222 7.40		18	0238 6.87		3	0337 7.43		18	0318 6.96	
	0909 0.37			0859 0.70			1033 0.14			0950 0.46	
F	1449 7.60	SA	1459 6.91		M	1610 7.52		TU	1540 7.07		
	2118 0.50		2101 0.85			2231 0.45			2151 0.61		
4	0309 7.39		19	0309 6.86		4	0420 7.27		19	0349 6.91	
	0958 0.25			0932 0.62			1106 0.31			1020 0.52	
SA	1539 7.58	SU	1531 6.91		TU	1653 7.27		W	1613 7.01		
	2202 0.49		2133 0.75			2304 0.61			2222 0.71		
5	0355 7.31		20	0339 6.84		5	0501 7.04		20	0421 6.83	
	1042 0.26			1005 0.60			1135 0.58			1046 0.70	
SU	1628 7.46	M	1603 6.92		W	1736 6.94		TH	1648 6.89		
	2243 0.58		2206 0.76			2336 0.83			2251 0.88		
6	0440 7.16		21	0410 6.80		6	0542 6.75		21	0456 6.72	

The table displays the following information in the title area:-

#### Tidal Location Name\*

The main title place name, which can also display national scripts such as Arabic. This text is derived from information held within the header in the tidal constants file (.tc1).

#### Time Zone\*

Time Zone which is displayed is obtained from the options displayed on the Time Zone top menu in GeoTide Predictor. The tidal predictions themselves take into account the stated time zone recorded in the header in the tidal constants file (.tc1) and the time zone requested in the Time Zone menu.

#### Year\*

This year is derived from the date requested.

#### Tidal Location: Latitude and Longitude\*

This position is derived from the information within the header in the tidal constants file (.tc1)..

Within the body of the table there is a calendar style layout showing

#### Month Name\*

#### Time of High and Low Water\*

See the Main Settings Screen to determines the actions taken for extra tides and standing tides.

**Height of High and Low water\***

**Full and New Moon\***

**Abbreviated Weekday Name\*.**

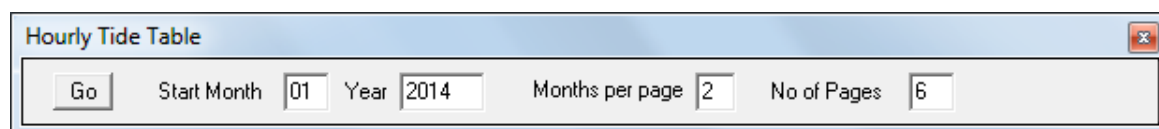
**Note:**

1. Above items deriving information from the header in the tc1 file can be edited by using the port header editor within the tools menu of the GeoTide Analyser.

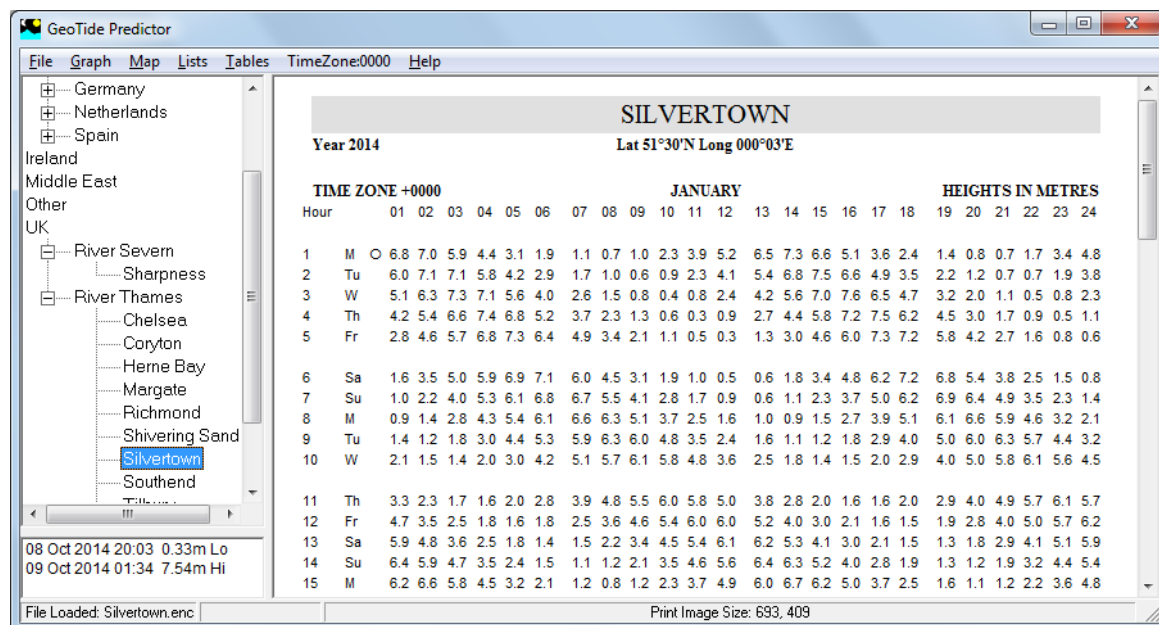
2. Above items marked \* can all be formatted using the methods described within the Technical Section, where there are many more layout, configuration and formatting options available. However the reader should be thoroughly aware of the warnings provided before attempting to change any of these settings.

## 4.2 Hourly Tide Table

Hourly Tide Tables can be accessed simply from the top Table Menu. Initially the following window is displayed.



Here the user may set the start date, the number of months per page and the number of pages.



The table displays the following information in the title area:-

**Tidal Location Name\***

The main title place name, which can also display national scripts such as Arabic. This text is derived from information in the header in the tidal constants file (.tc1).

**Time Zone\***

Time Zone which is displayed is obtained from the options displayed on the Time Zone top menu in GeoTide Predictor. The tidal predictions themselves take into account the stated time zone recorded in the header in the tidal constants file (.tc1) and the time

zone requested in the Time Zone menu.

**Year\***

This year is derived from the date requested.

**Tidal Location: Latitude and Longitude\***

This position is derived from the information within the header in the tidal constants file (.tc1)..

Within the body of the table there is a tabular style layout showing

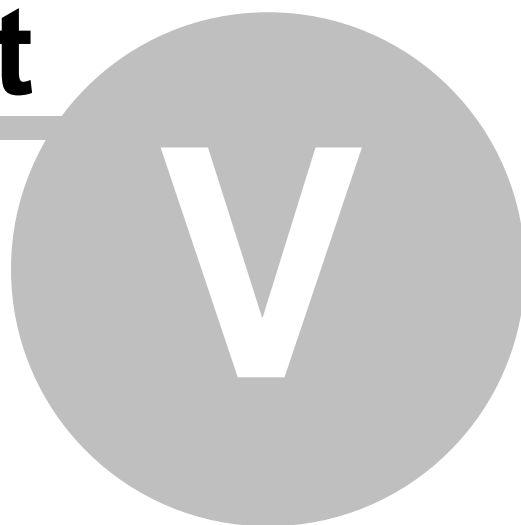
**Month Name\*****Hourly Height of Tide\*****Full and New Moon\*****Abbreviated Weekday Name\*.****Note:**

1. Above items deriving information from the header in the tc1 file can be edited by using the port header editor within the tools menu of the GeoTide Analyser.

2. Above items marked \* can all be formatted using the methods described within the Technical Section, where there are many more layout, configuration and formatting options available. However the reader should be thoroughly aware of the warnings provided before attempting to change any of these settings.

# Part

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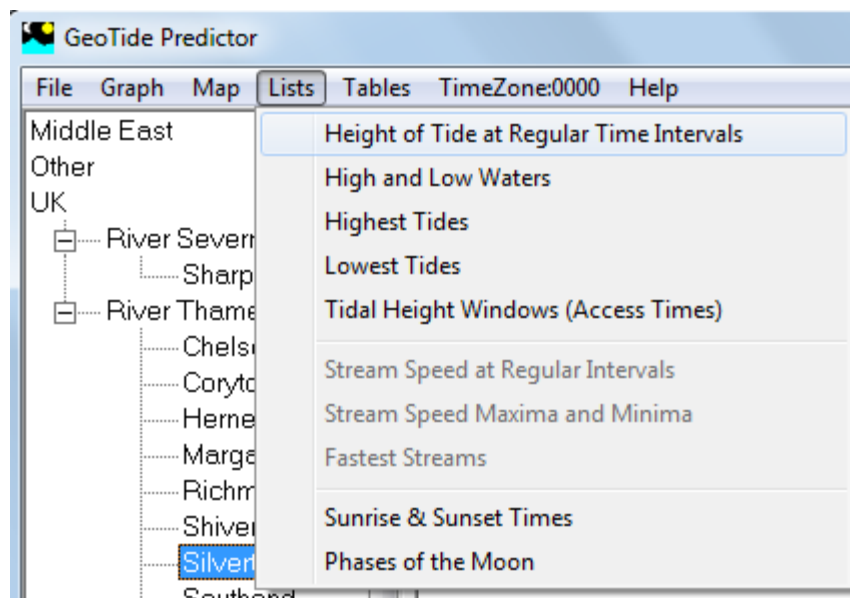
## Lists



## 5 Lists

Unlike Tables, Lists are designed so that the information can be easily moved into databases, spreadsheets or text editors. Lists are not designed as a layout object and should not be used to transfer layouts. For this latter purpose Tables are more appropriate.

Lists can be used to transfer individual predictions or sets of predictions to other systems.



Selecting an option on the List Menu displays a window requesting the relevant information.

The options are:-

- Tides at Regular Intervals
- High and Low Tides
- Highest Tides
- Lowest Tides
- Tidal Windows (i.e access times)
- Tidal Stream Speeds and Direction at Regular Intervals
- Tidal Stream Maxima and Minima (i.e. peak and slack tide)
- Fastest Predicted Tidal Streams
- Sunset and Sunrise Times
- Phases of the Moon

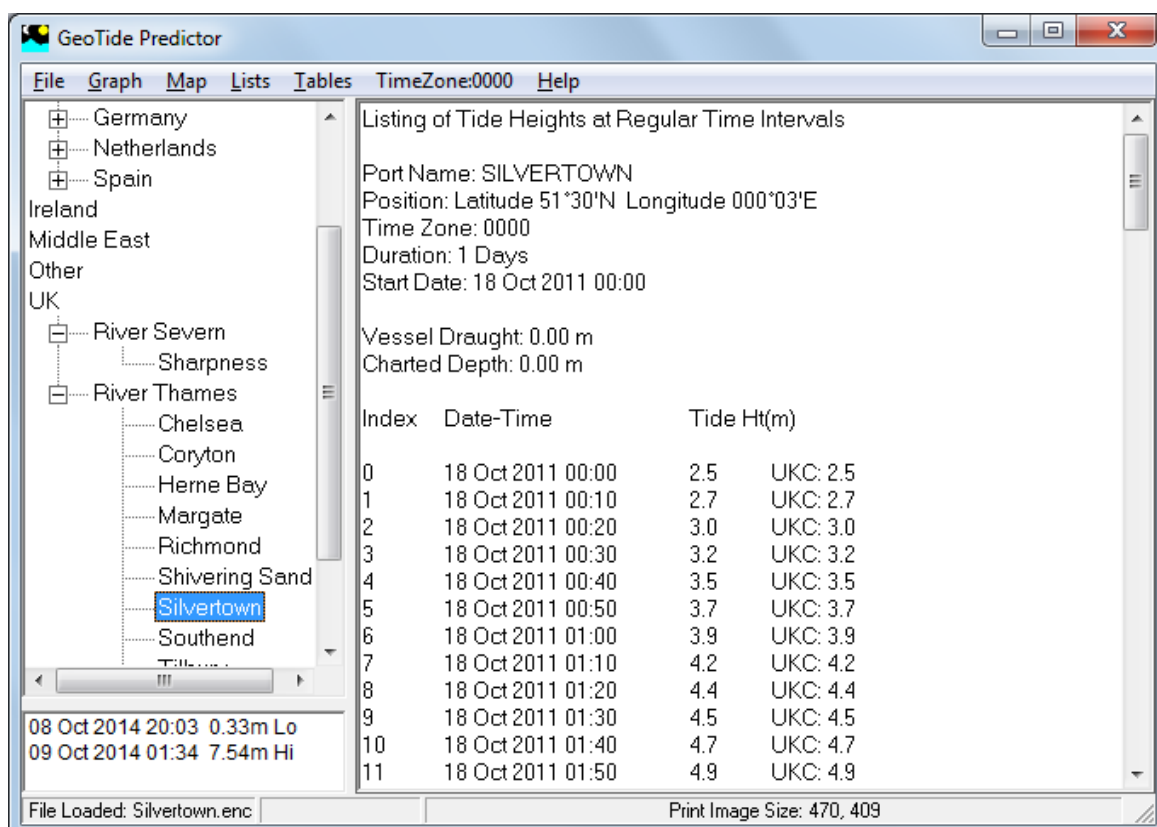
The displayed lists can be printed out or exported via the clipboard using the options on the File menu.

## 5.1 Height of Tide at Regular Intervals



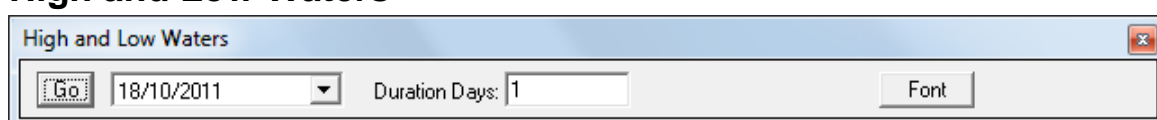
### Tides at Regular Intervals

Displays a list of predicted tidal height at regular intervals for the selected port. When this option is selected you can enter the time interval for the list in minutes.



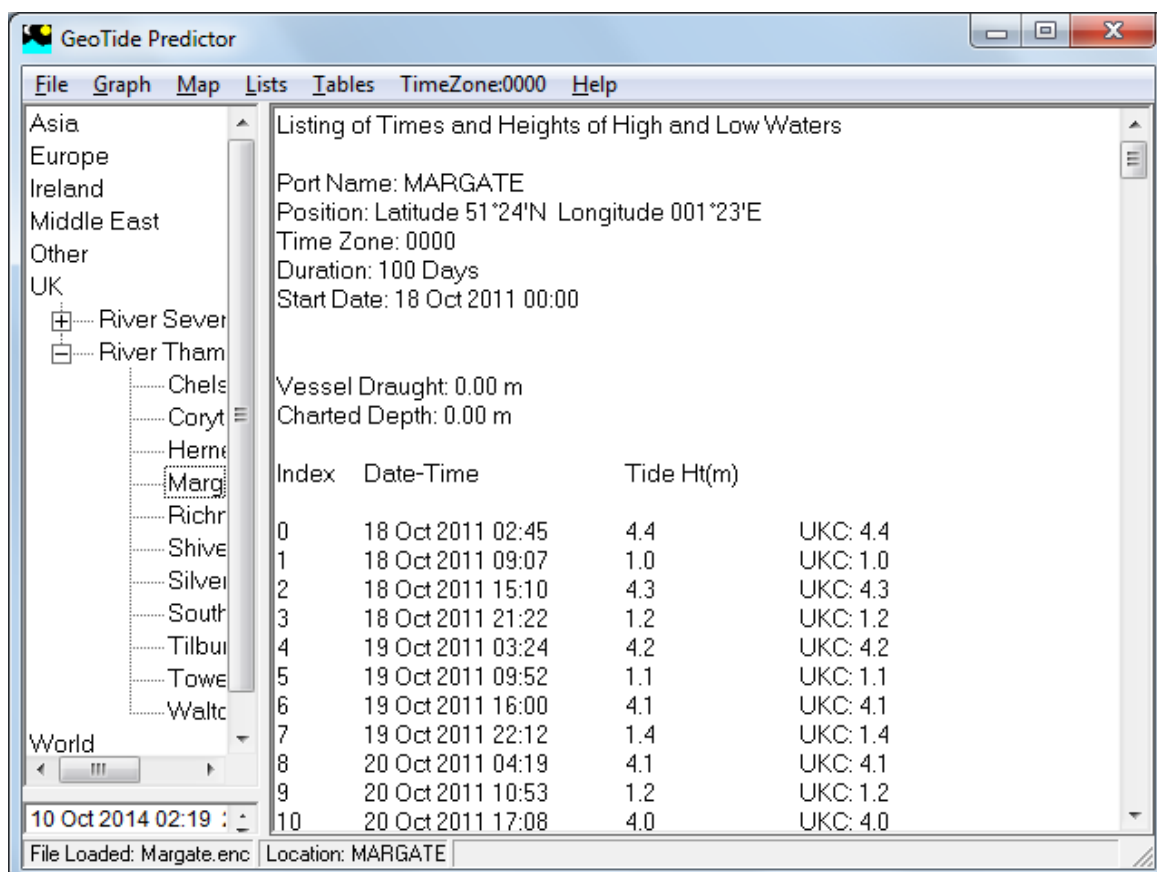
The displayed list can be printed out or exported using the options on the File menu.

## 5.2 High and Low Waters



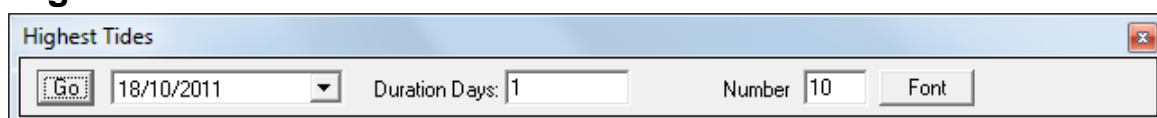
### High and Low Water

Displays a list of high and low water times and heights for the selected port.



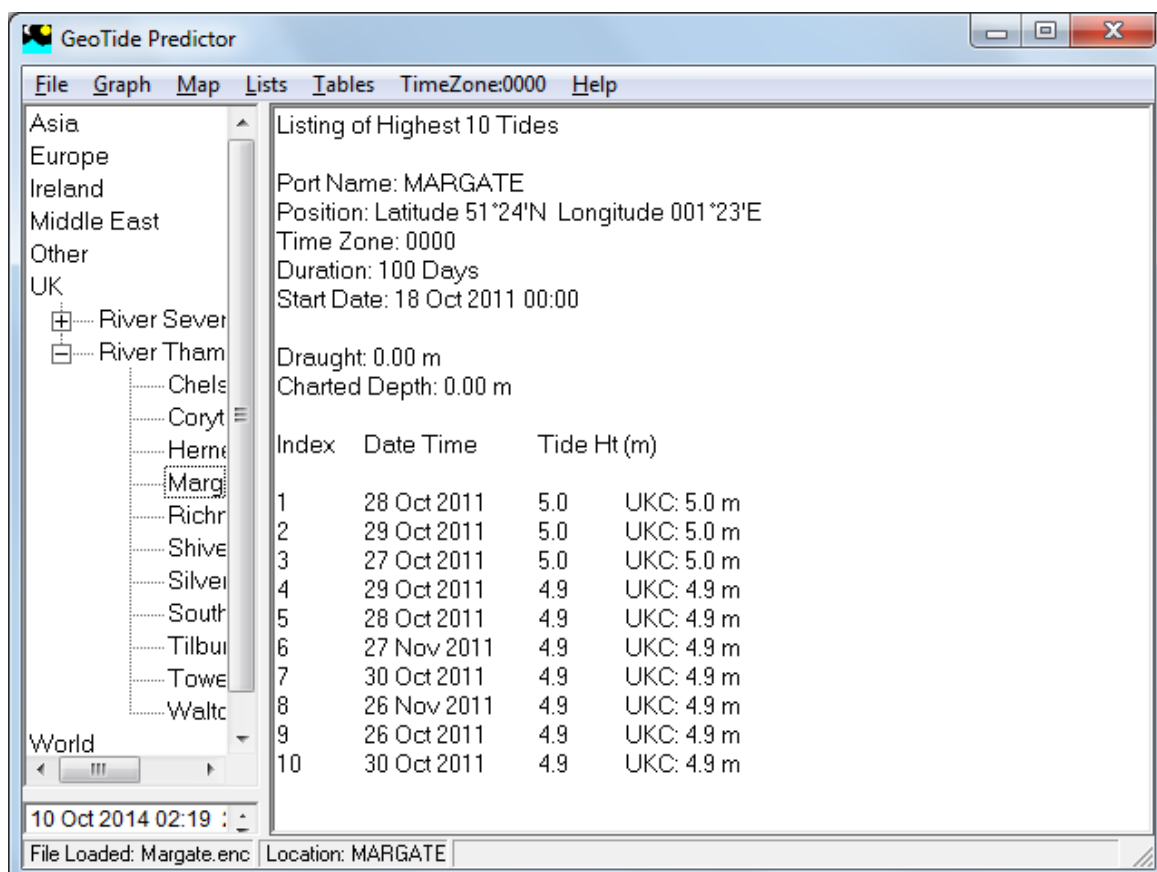
The displayed list can be printed out or exported using the options on the File menu.

## 5.3 Highest Tides



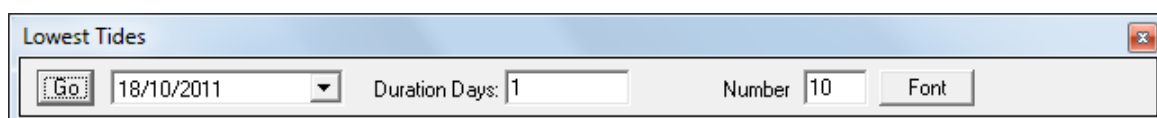
### Highest

Displays a list of a specified number of the highest / lowest tides for the selected port. When this option is selected you enter the number of highest/lowest tides required. The highest or lowest are sorted by the computer into numerical order prior to being displayed.



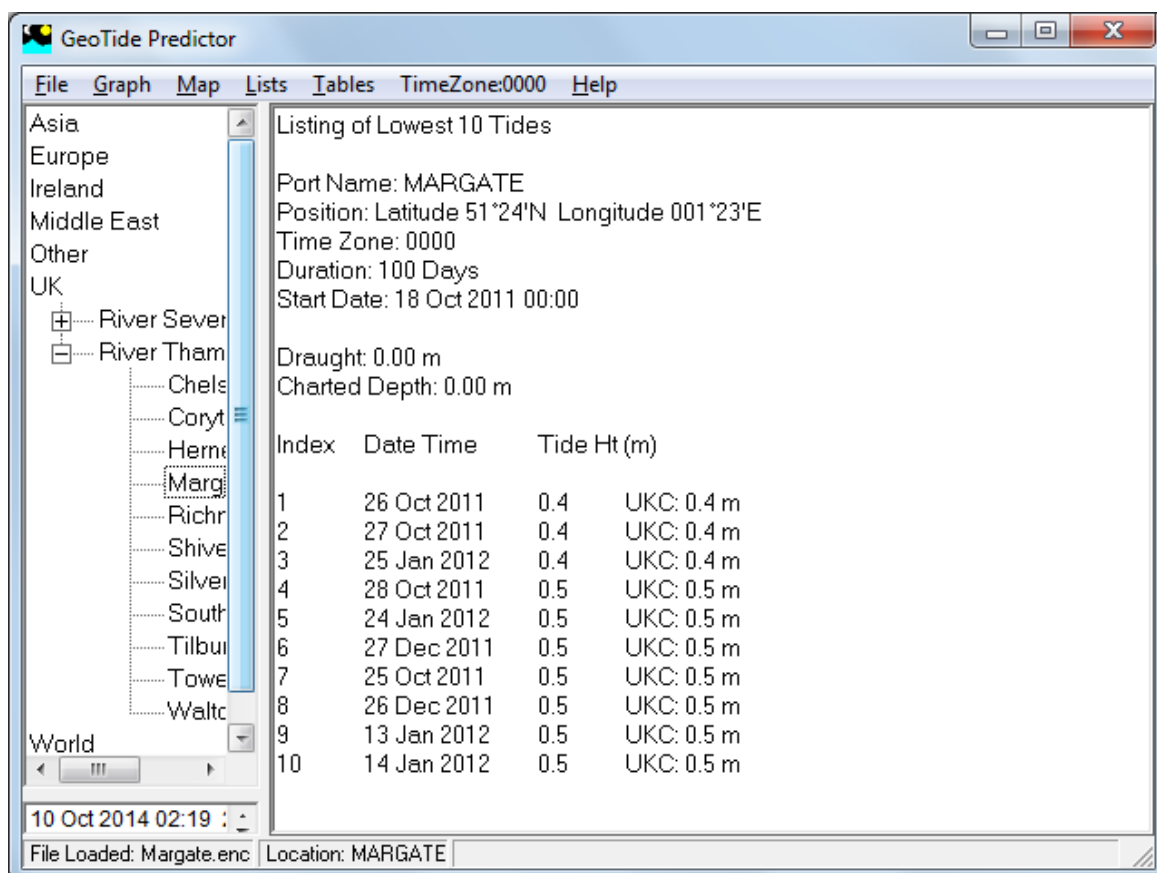
The displayed list can be printed out or exported using the options on the File menu.

## 5.4 Lowest Tides



### Lowest

Displays a list of a specified number of the highest / lowest tides for the selected port. When this option is selected you enter the number of highest/lowest tides required. The highest or lowest are sorted by the computer into numerical order prior to being displayed.



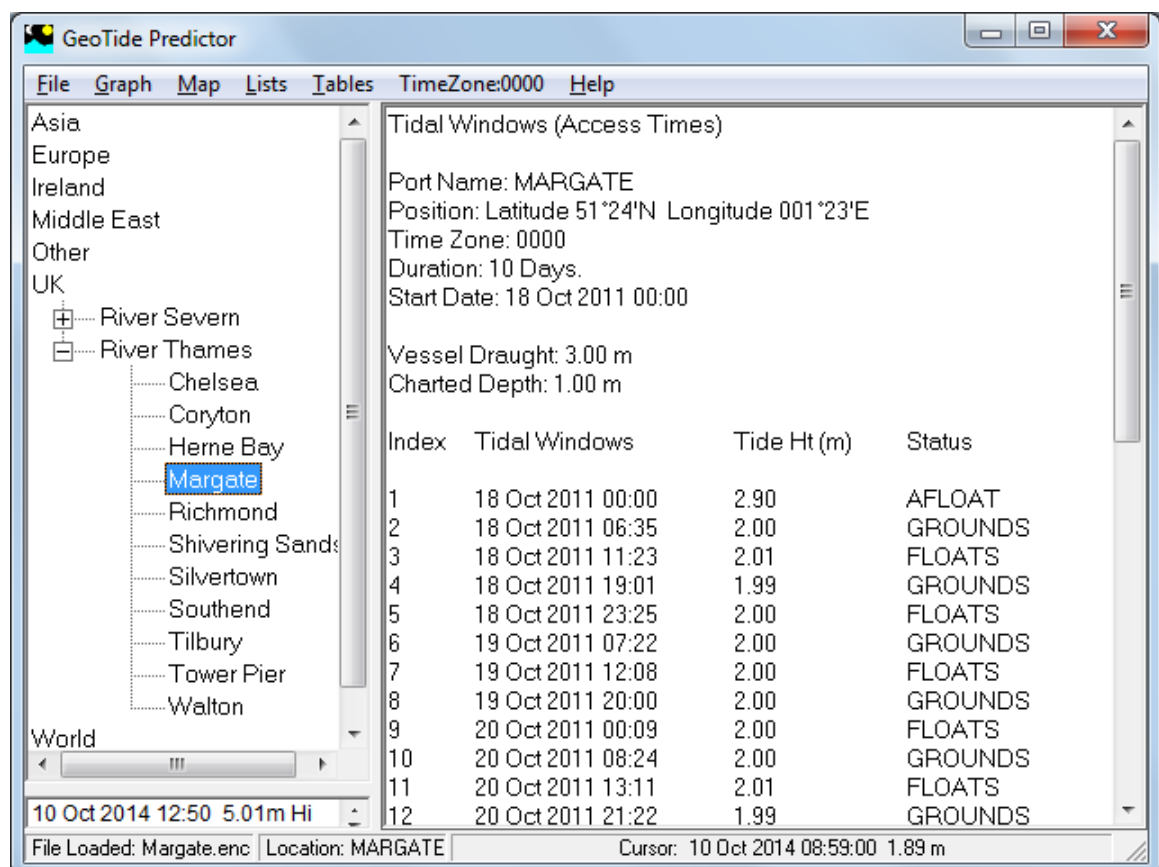
The displayed list can be printed out or exported using the options on the File menu.

## 5.5 Tidal Windows (Access Times)



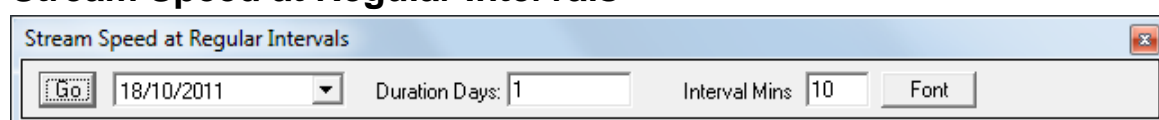
### Tidal Windows (i.e Access Times)

Displays a list of the access times for a vessel of given draught, a seaway of given charted depth for the tides at the selected port. The vessel draught and the charted depth are entered on the main settings windows.



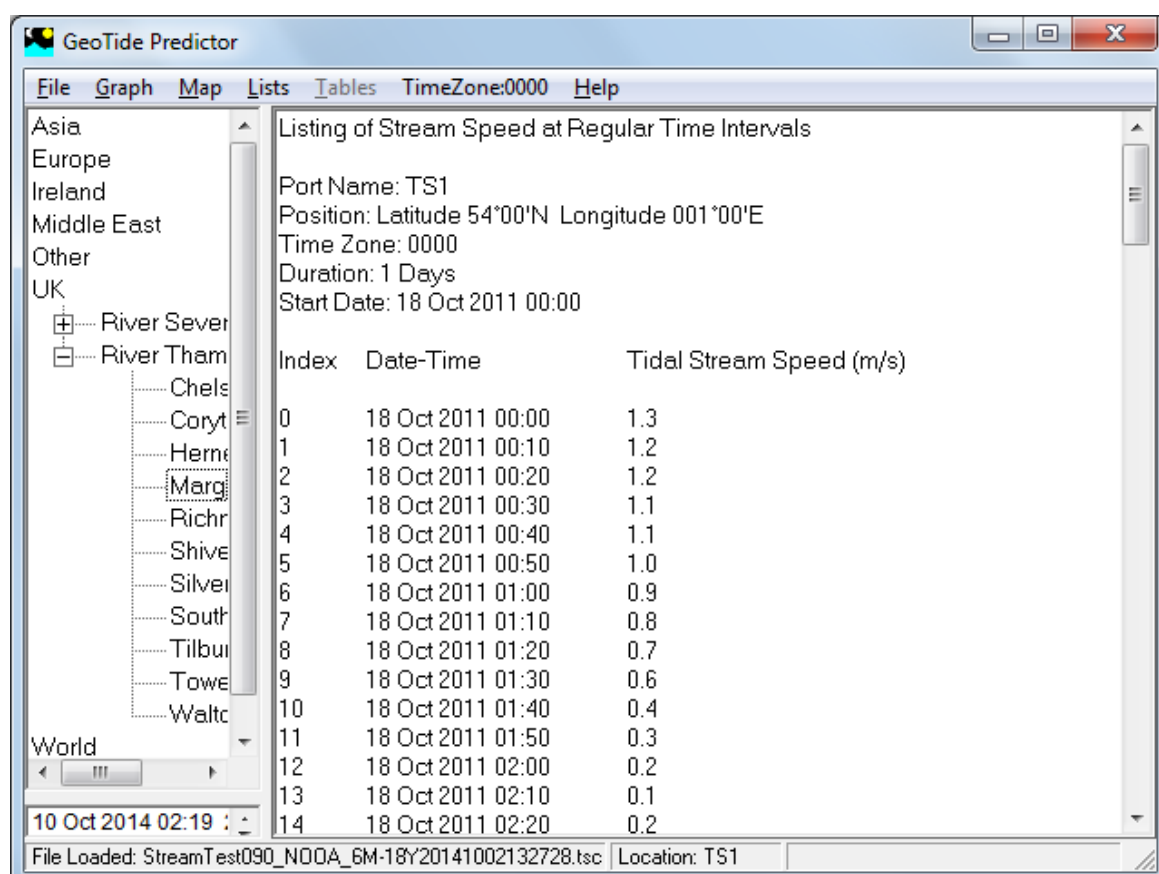
The displayed list can be printed out or exported using the options on the File menu.

## 5.6 Stream Speed at Regular Intervals



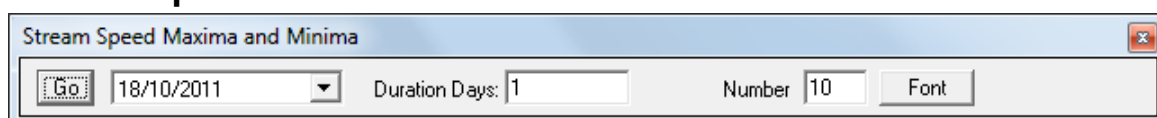
### Tidal Stream Speeds and Direction at Regular Intervals

Displays a list of predicted tidal speed and direction at regular intervals for the selected port. When this option is selected you can enter the time interval for the list in minutes.



The displayed list can be printed out or exported using the options on the File menu.

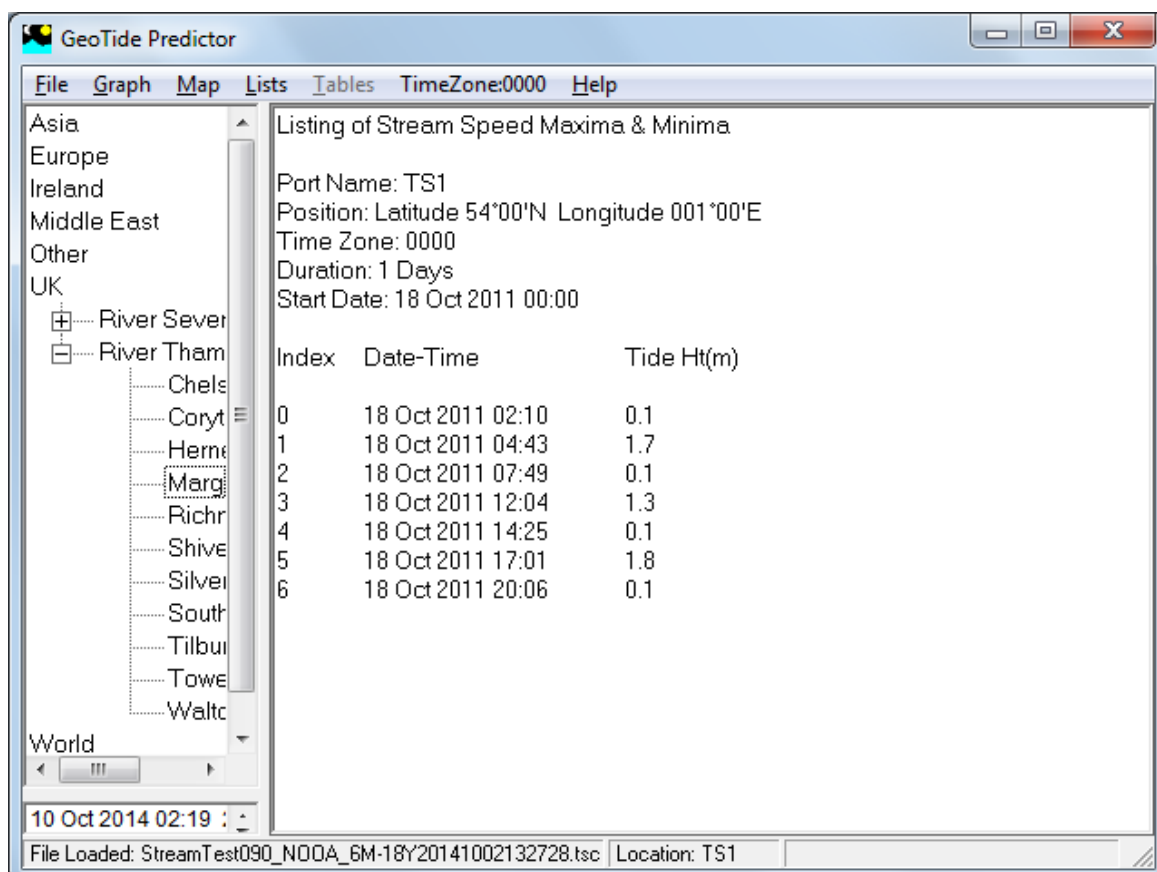
## 5.7 Stream Speed Maxima and Minima



### Tidal Stream Maxima and Minima (i.e. peak and slack tide)

Displays a list of peak speed and minimum speed for the selected port. Stream speed is always greater than or equal to zero - it is never negative.

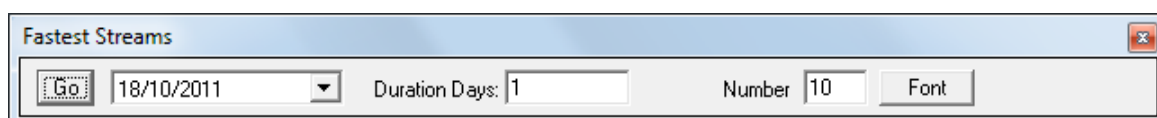
The direction if the stream is encoded via the angle not by the sign. The peak and minimum speed are the absolute values for stream speed.



The displayed list can be printed out or exported using the options on the File menu.

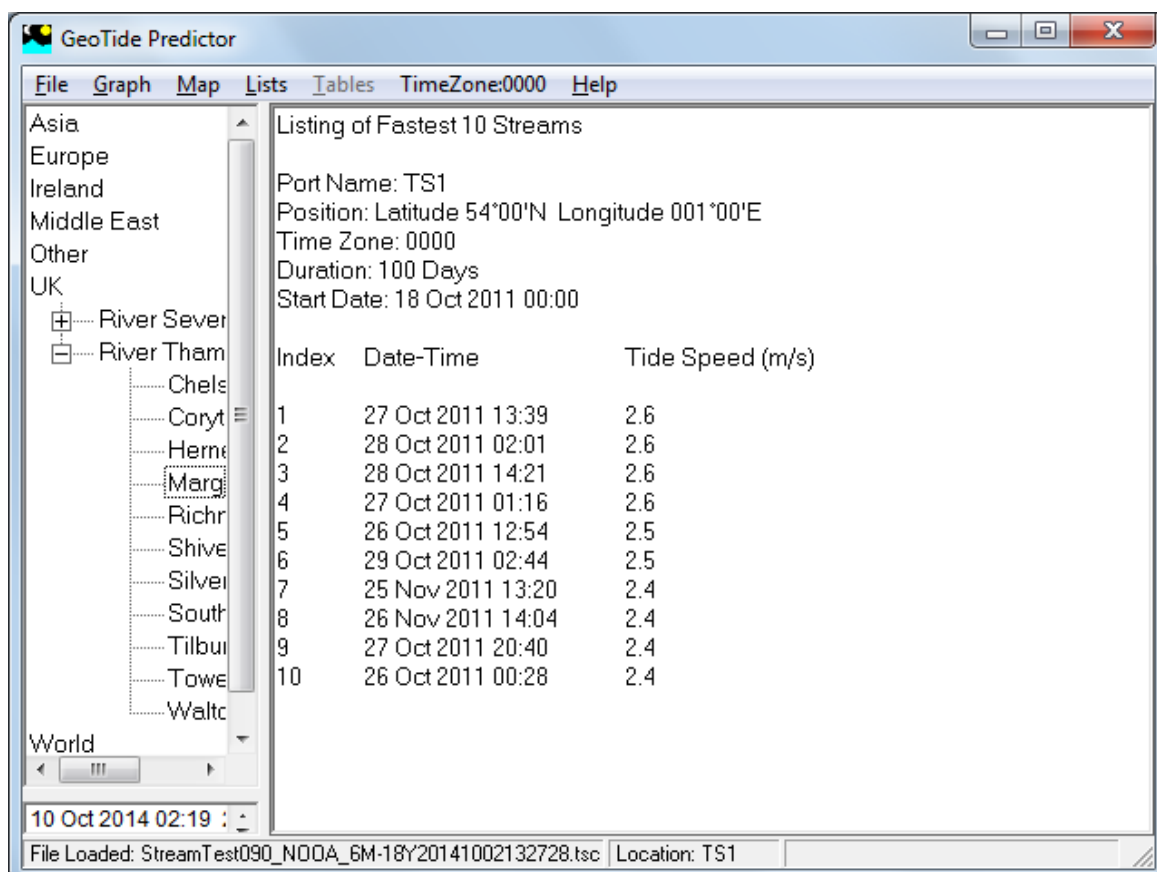


## 5.8 Fastest Streams



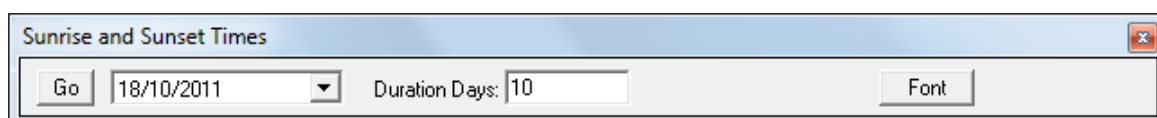
### Fastest Predicted Tidal Streams

Displays a list of a specified number of the fastest tides for the selected port, and their directions. When this option is selected you enter the number of fastest tides required. They are sorted by the computer into numerical order prior to being displayed.



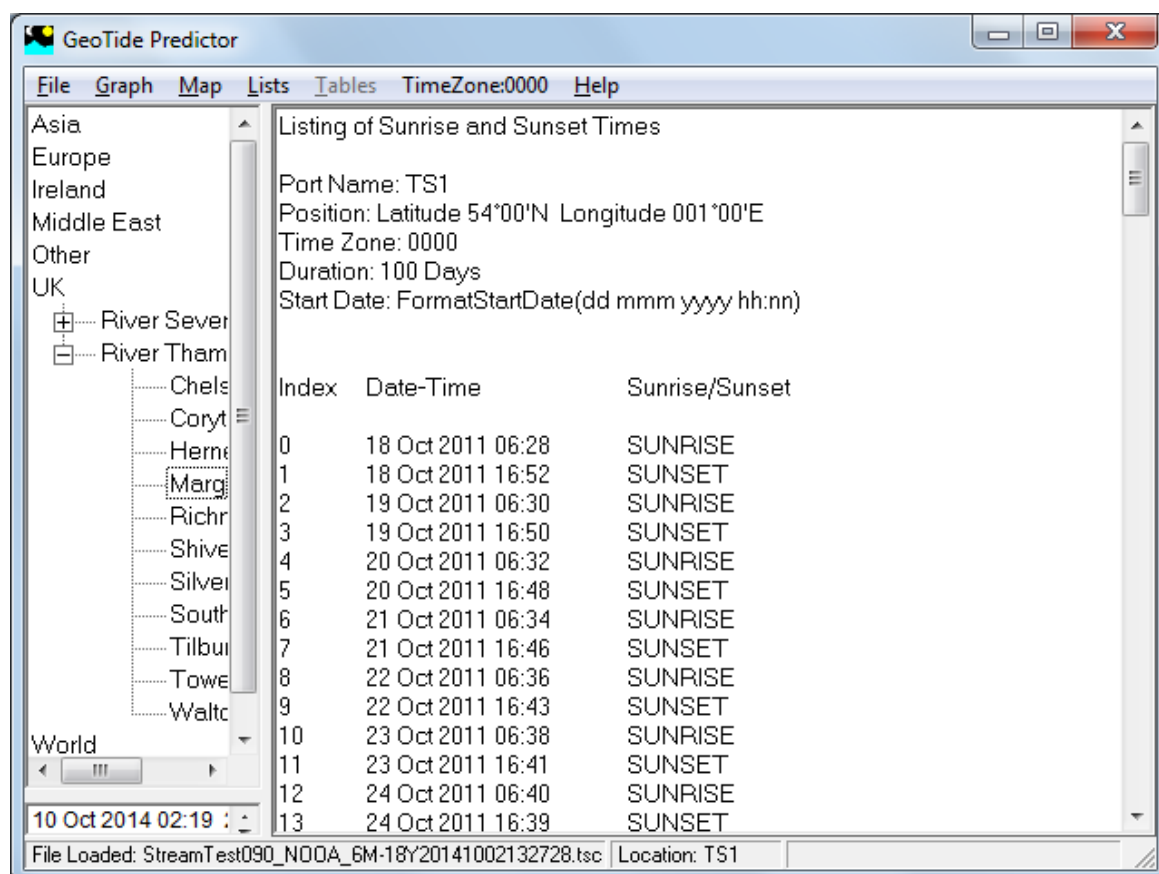
The displayed list can be printed out or exported using the options on the File menu.

## 5.9 Sunset and Sunrise Times



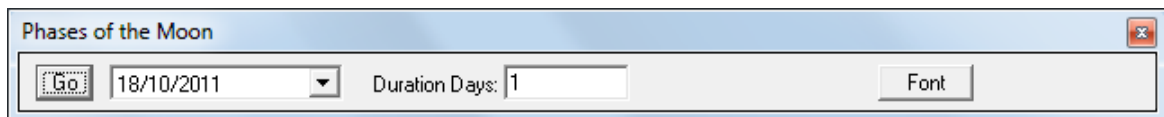
### Sunset and Sunrise Times

Displays a list of the sunrise and sunset times for the selected port.



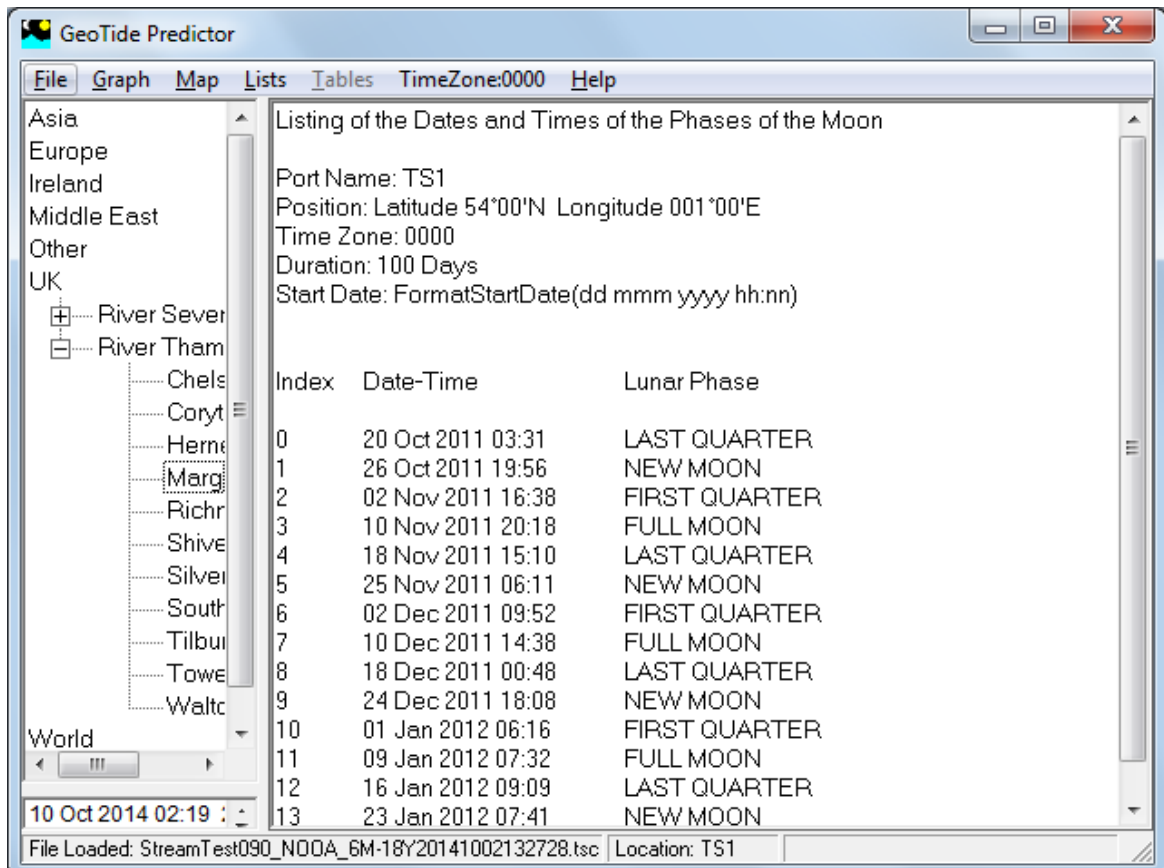
The displayed list can be printed out or exported using the options on the File menu.

## 5.10 Phases of the Moon



### Phases of the Moon

Displays a list of the times of the lunar phases.



The displayed list can be printed out or exported using the options on the File menu.

**Part**

---



**VI**

**Technical**

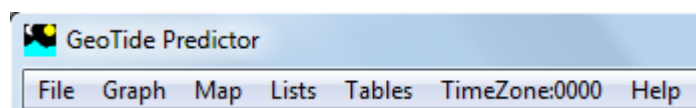
## 6 Technical

### WARNING

The configurations options described within this section are intended for advanced users only and are critical to normal operation. Changing these settings to inappropriate values may result in deleterious operation and possible failure. If you are not familiar with HTML, CSS, ASP and VBA you should not attempt to change any of these settings.

### Accessing the Configuration Buttons

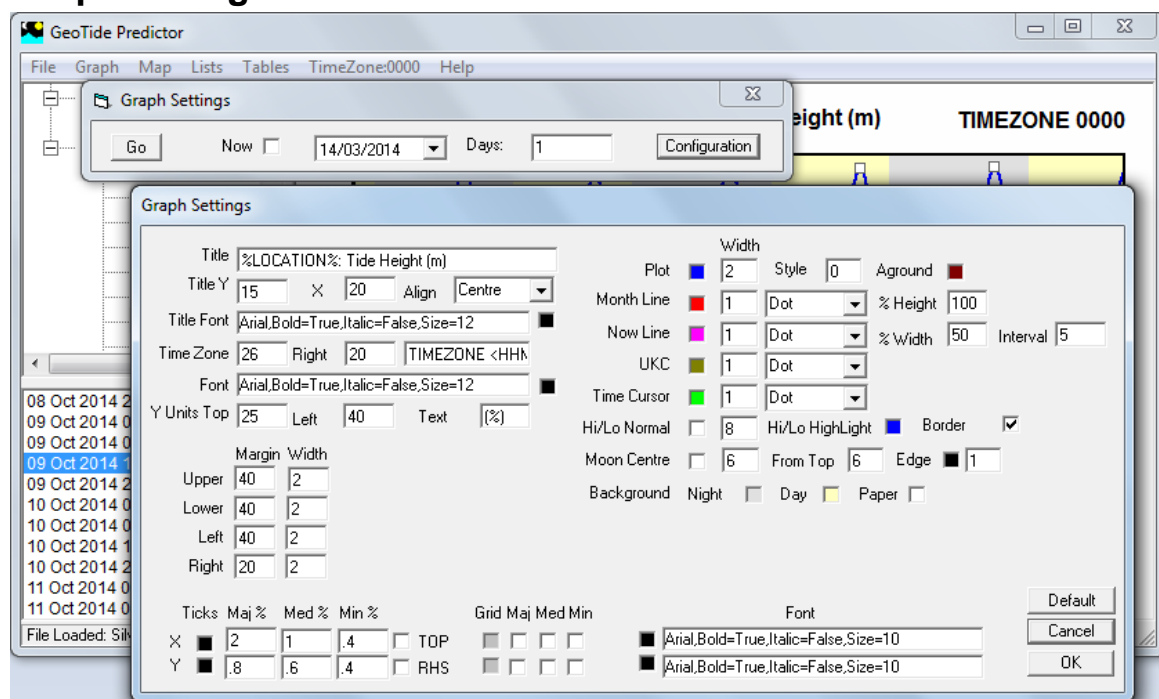
Having read and understood the above, if you are sure you wish to continue you can access the configuration windows by following the instructions below.



On top menu options **Graph**, **Lists**, **Tables** and **Map** click the mouse on the top menu bar while simultaneously depressing the Control key.

For the top menu option **Map** the configuration window is directly displayed. For the top menu options **Graph**, **Lists** and **Tables** you also need to select the required sub-menu option. At this point the usual window is displayed but with an additional button labelled **Configuration**. Clicking this Configuration button will display the respective configuration window.

### 6.1 Graph Configuration



Clicking the Configuration button on the Graph Pane displays the settings window shown above. This window is used to control the appearance and formatting of the graph. See the main Technical page to display the Configuration button.

## Command Buttons

### Default

Restores the settings to the 'factory' default settings without closing this window.

### Cancel

Closes the window ignoring any changes you may have made.

### OK

Closes the window implementing any changes you may have made, including using the default button.

The other active elements are:

### Title

Click the text box to enter the graph title. The string %LOCATION% is substituted with the location contained in the TC1 file.

Y: The number of pixels down from the upper edge of the graph to the title text.

X: The number of pixels from the left hand edge of the graph only applies when using align Left.

Align: Aligns the title to the left, center or right of the graph window.

Click the font text box to select the font and to set its properties bold italic and size.

Click the coloured square to select the font colour.

### Time Zone

Top: The number of pixels from the upper edge of the graph down to the text.

Right: The number of pixels from the right hand edge of the graph.

Click the text box to add or change the text. The numeric time zone as contained in the TC1 file is written to the right hand side of this text string .

Click the font text box to select the font and to set its properties bold italic and size.

Click the coloured square to select the font colour.

### Y Units

Top: The number of pixels from the upper edge of the graph.

Right: The number of pixels from the left hand edge of the graph.

Click the text box to enter the X Units text. The string '(%)' is substituted with the units contained in the TC1 file.

### Ticks ( X / Y )

There are 3 sizes of ticks (Major, Medium, Minor) which may be set independently on both the X and Y axis. The units are all in % of graph height.

Ticking the Mirror checkbox causes the ticks to be drawn on the opposite side of the graph also.

### Axis ( X / Y )

Click the coloured squares to change the respective axis colours.

Click the font text box to select the font and to set its properties bold, italic, and size.

The Axes may be positioned relative to the chart window in pixel units by using the margin text boxes. The Axis Thickness may be set by changing the figure in the width text boxes (in pixels).

### Plot

The graph line may be varied with following parameters:

Line Colour: Click to select colour

Line Width: Enter in pixels

Line Style: Set 0 to always display a solid line, 1 or more to display the prediction

curve as dots.

Line Aground: Click to select the aground colour - i.e. the colour used to plot the curve when the vessel would be aground ( $UKC < 0$ )

### Month

A vertical line is drawn at 00:00 on the beginning of each Calendar month.

Line Colour: Click to select colour.

Line Width: Enter the line width in pixels.

Line Style: Click to select the style - this only applies when the line width is one pixel.

Line Height: Enter as a percentage of graph height.

### Now

Displays a vertical line representing the current time in Graph Units when the Now checkbox is ticked.

Line Colour: Click to select colour.

Line Width: Enter the line width in pixels.

Line Style: Click to select style.

Line Height: Enter as a percentage of graph height.

Line Interval: Enter the update interval for graph and line redraws in seconds.

### Under Keel Clearance (UKC)

The UKC Line is drawn horizontally on the graph at the tidal height where the vessel would just ground i.e. at vessel draught - charted depth. Note that the graph line colour is changed according to whether the vessel is afloat or aground. These colours are set in Plot above.

UKC Line Colour: Click to select colour.

UKC Line Width: Enter the line width in pixels.

UKC Line Style: Click to select the style - this only applies when the line width is one pixel.

### Time Cursor Line

Line Colour: Click to select colour

Line Width: Enter in pixels

Line Style: Click to select the style - this only applies when the line width is one pixel.

### High and Low Turning Points

HiLo Normal: Click the colour box to select the colour of those turning points which are not highlighted

Size: Enter box size in pixels

HiLo Highlight: Click the colour box to select the colour of the turning point which is highlighted.

Edge checkbox.: Click to select whether or not the box edge is displayed

### Moon

Center Colour: Click to select colour

Size: Enter diameter in pixels

Position from Top: Enter distance from top of graph frame to moon center in pixels

Edge Colour: Click to select colour

Edge Thickness: Enter edge thickness in pixels

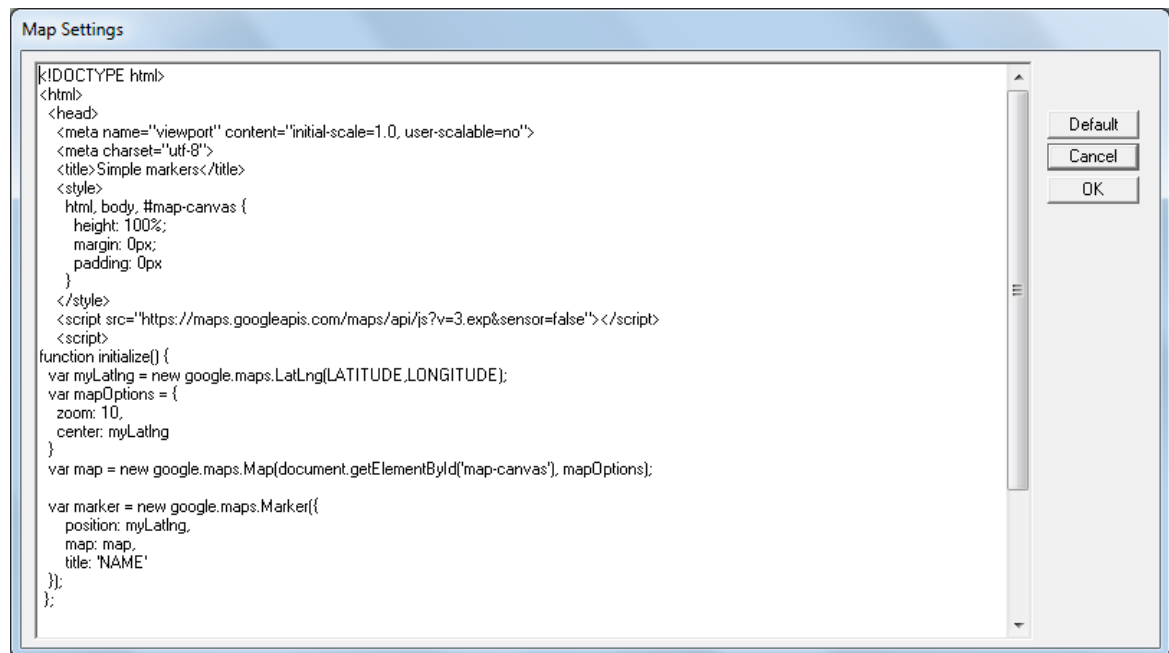
### Background (Night / Day / Paper)

The paper background colour is the colour which surrounds the graph (white below).

The night colour is the colour of the graph background at night (grey below). The day colour is the colour of the graph background at day (cream below). Click the Night / Day / Paper coloured squares to select the appropriate colour.

## 6.2 Map Configuration

Clicking the **Map** top menu option while depressing the Control key displays the settings window shown below.



This window is used to control the appearance and formatting of the displayed map.

The page may contain either the code for a web page (as above) or an http url string such as

<http://maps.googleapis.com/maps/api/staticmap?center=LATITUDE, LONGITUDE&zoom=9&size=HEIGHTxWIDTH&motype=terrain&markers=color:blue%7CLATITUDE, LONGITUDE&sensor=false>

or

<http://www.openstreetmap.org/?mlat=LATITUDE&mlon=LONGITUDE#map=10/LATITUDE/LONGITUDE>

The page must contain the keywords LATITUDE and LONGITUDE and optionally NAME.

These are substituted with the respective data relating to the tidal location which has been selected by the user.

## 6.3 List Configuration

Refer to the main Technical page for instructions on how to display the Configuration button.

Clicking the **Configuration** button on the **List** pane displays the Listing Program window.

Each window is used to control the appearance and formatting of the displayed lists. The edit windows are fully sizeable, and contain all of the instruction required to construct the respective Listing in ASCII text.



The command buttons function as follows:-

### **OK**

Loads new changes into the system. They will be saved and used from this point onwards whenever the GeoTide is run.

### **Cancel**

Cancels the changes you may have made.

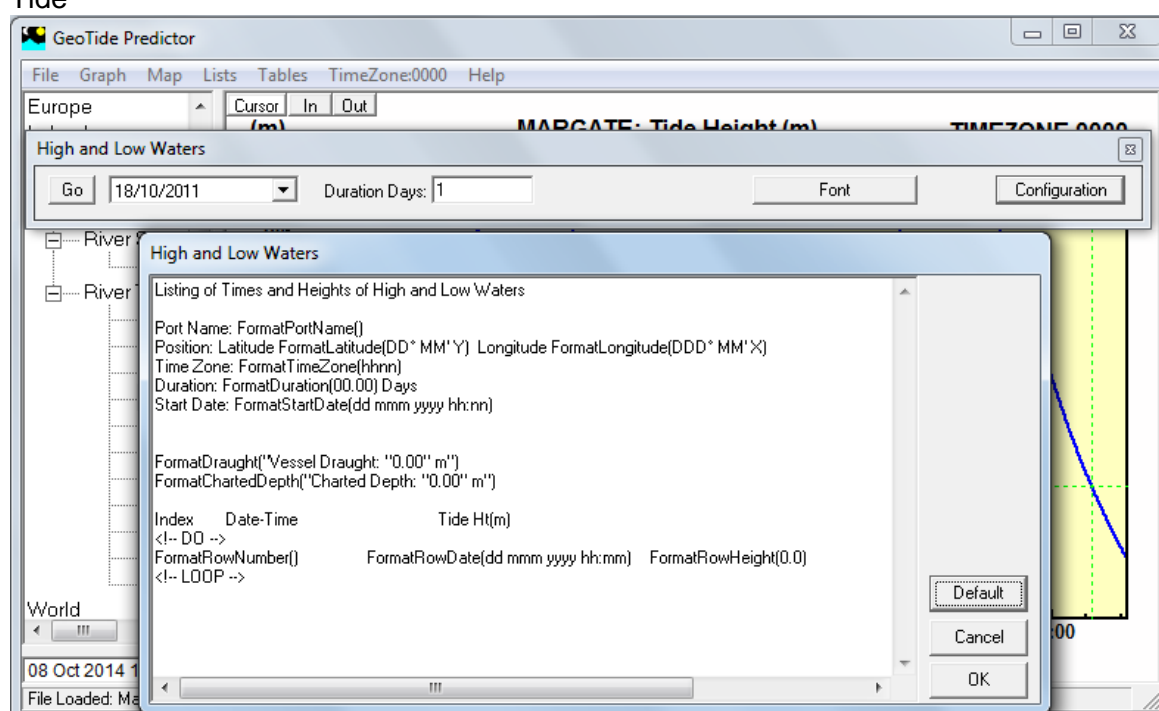
### **Default**

Restores the default settings to those as initially provided by the program Geomatix.

### **Help**

Provides this help page.

For example the listings below contain the instructions for the text list of High and Low Tide



Each window may contain Substitution Functions which are used to insert the formatted tidal and other data into the final text list.

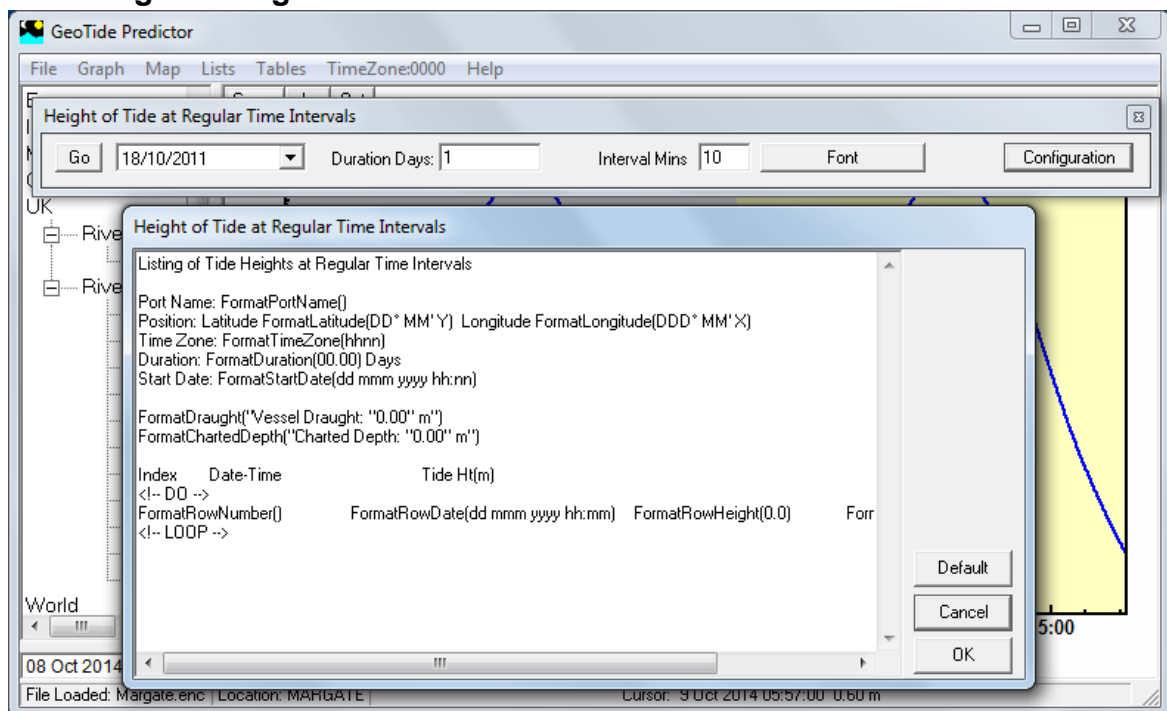
The following tags are used to start and end the loop

```
<!-- DO --><!-- LOOP -->
```

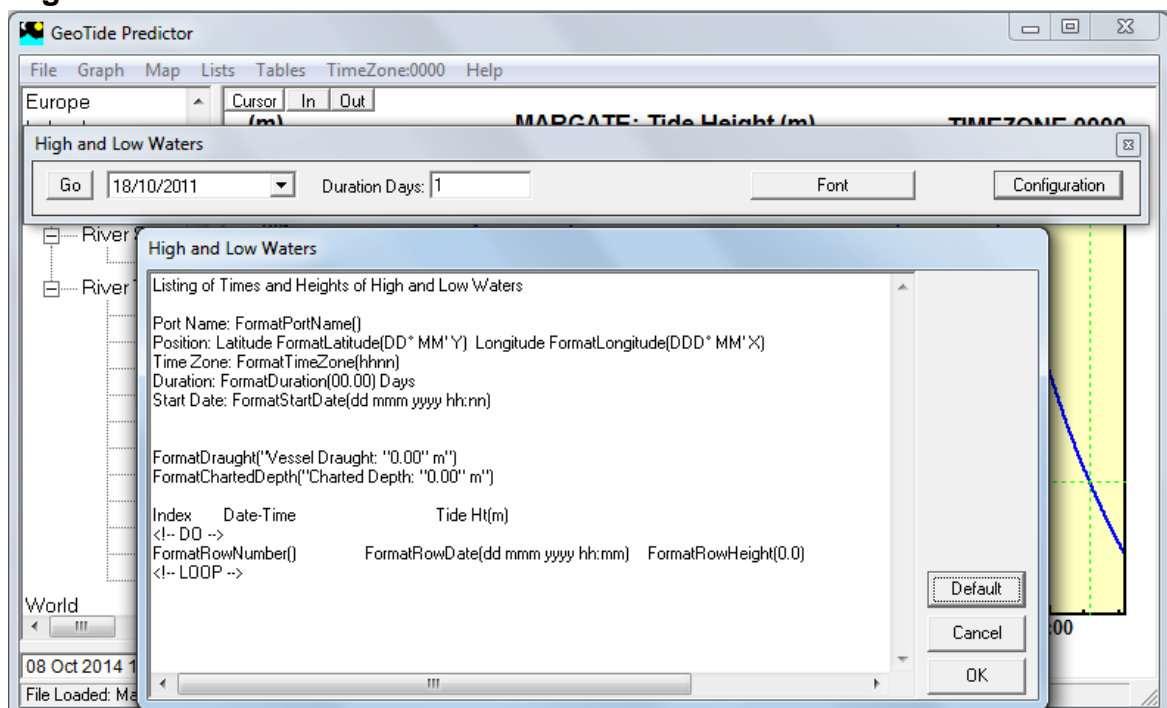
Only one loop may be present.

The following pages contain the respective scripts for each type of list.

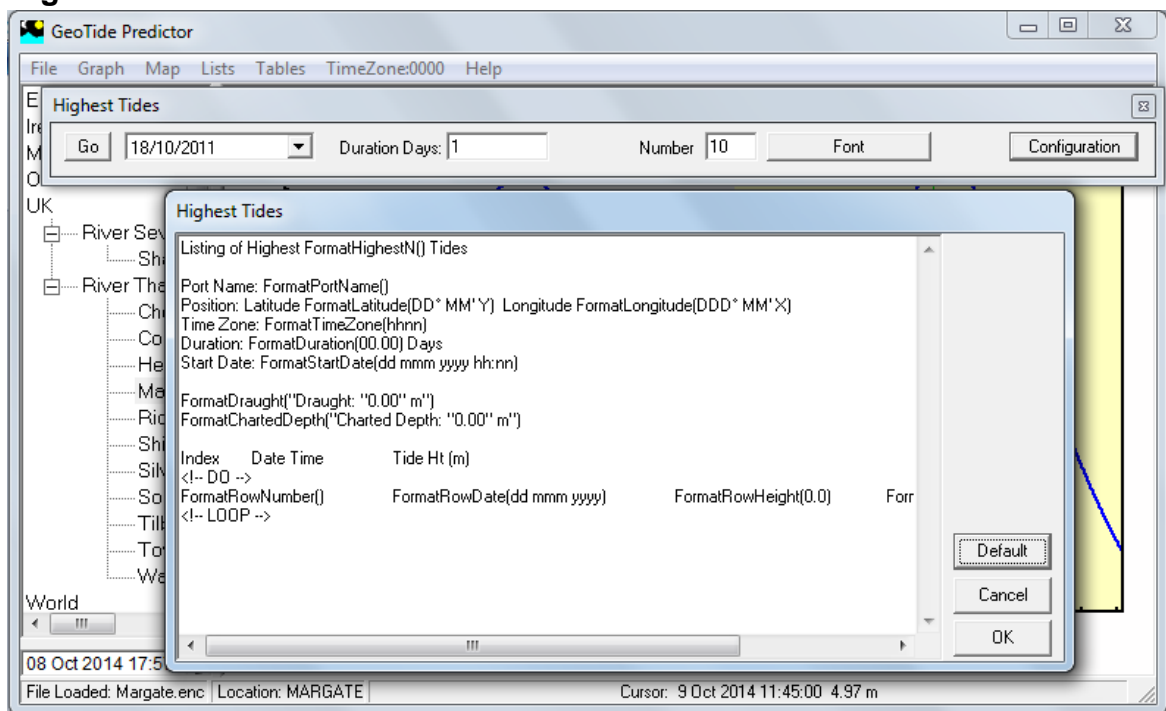
### 6.3.1 Tide Height at Regular Intervals



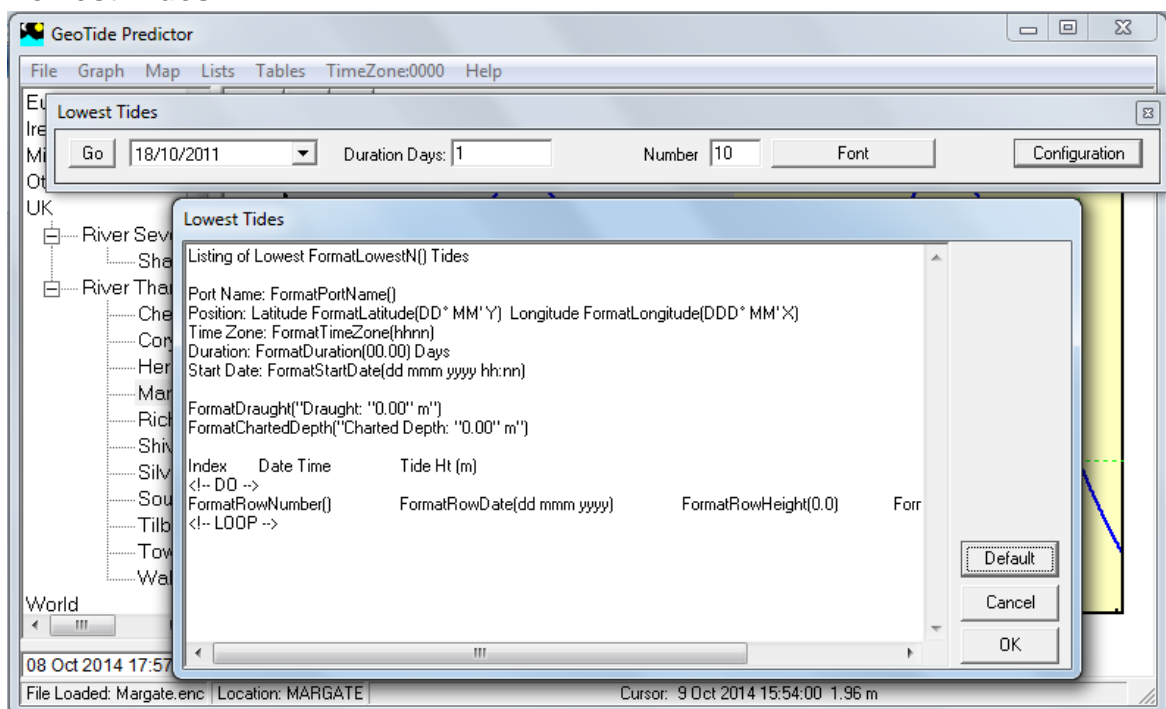
### 6.3.2 High and Low Waters



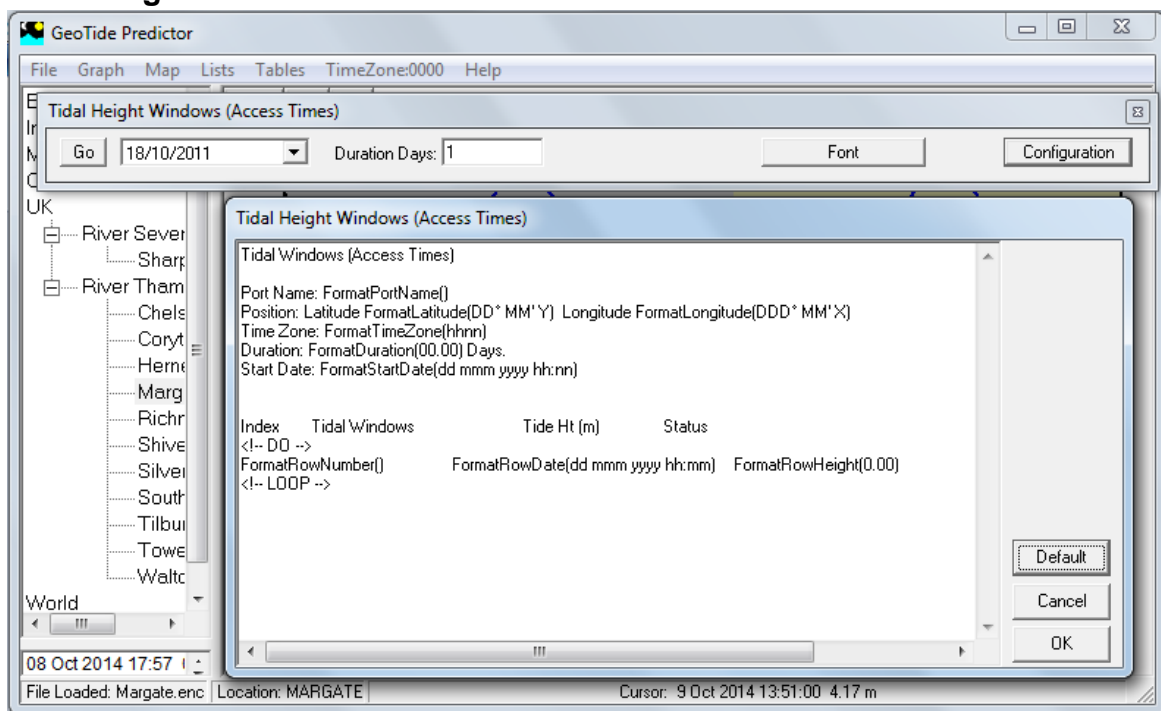
### 6.3.3 Highest Tides



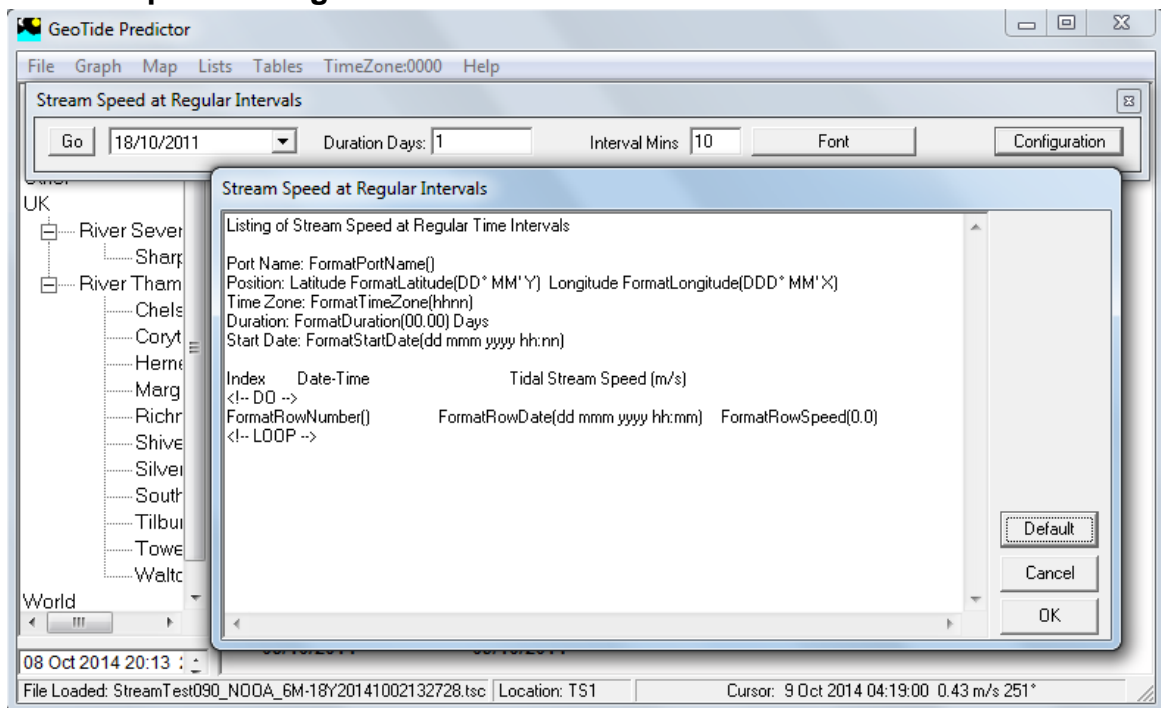
### 6.3.4 Lowest Tides



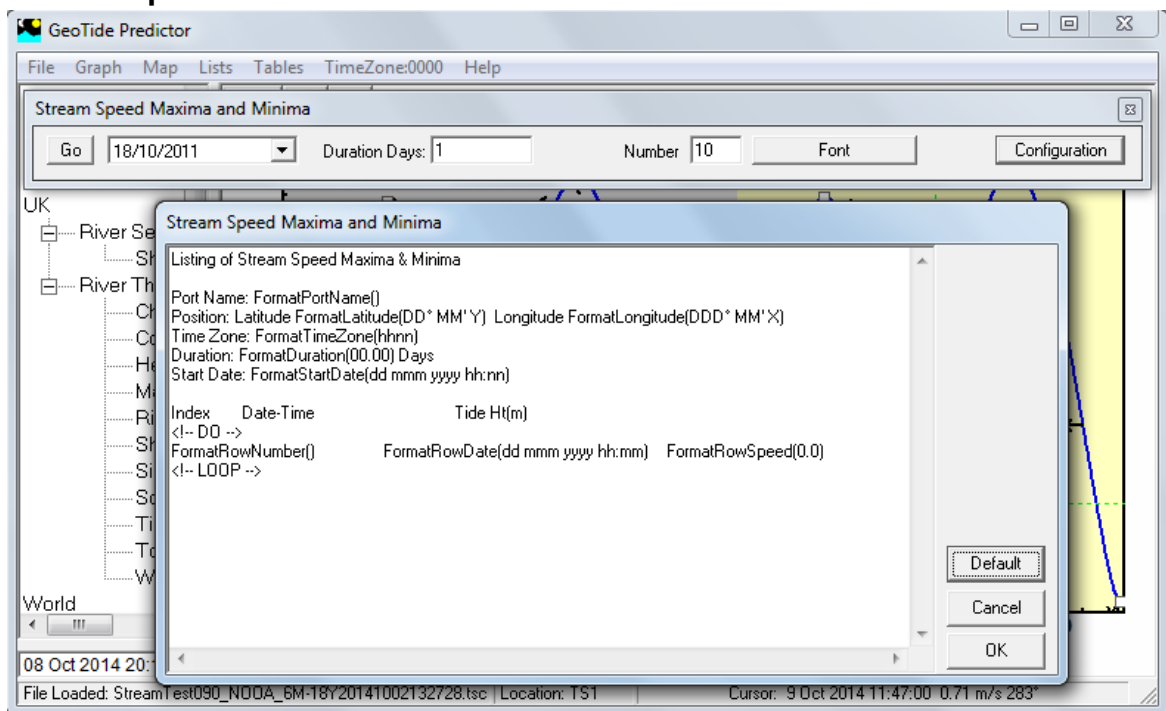
### 6.3.5 Tidal Height Windows



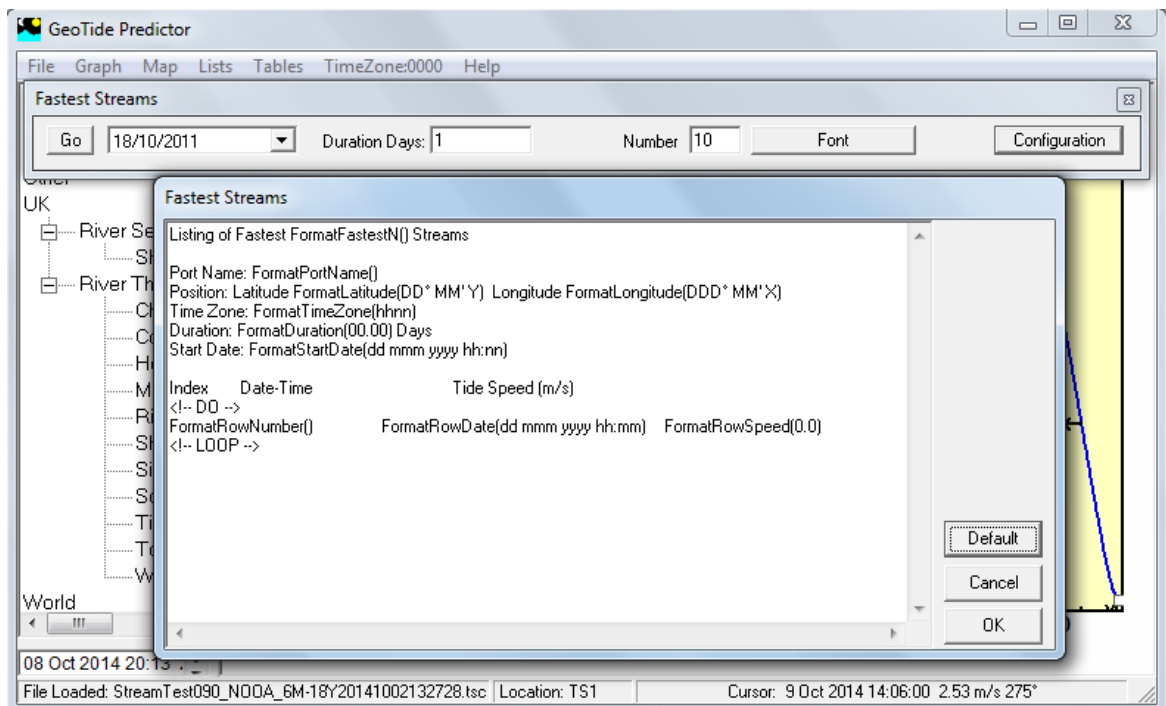
### 6.3.6 Stream Speed at Regular Intervals



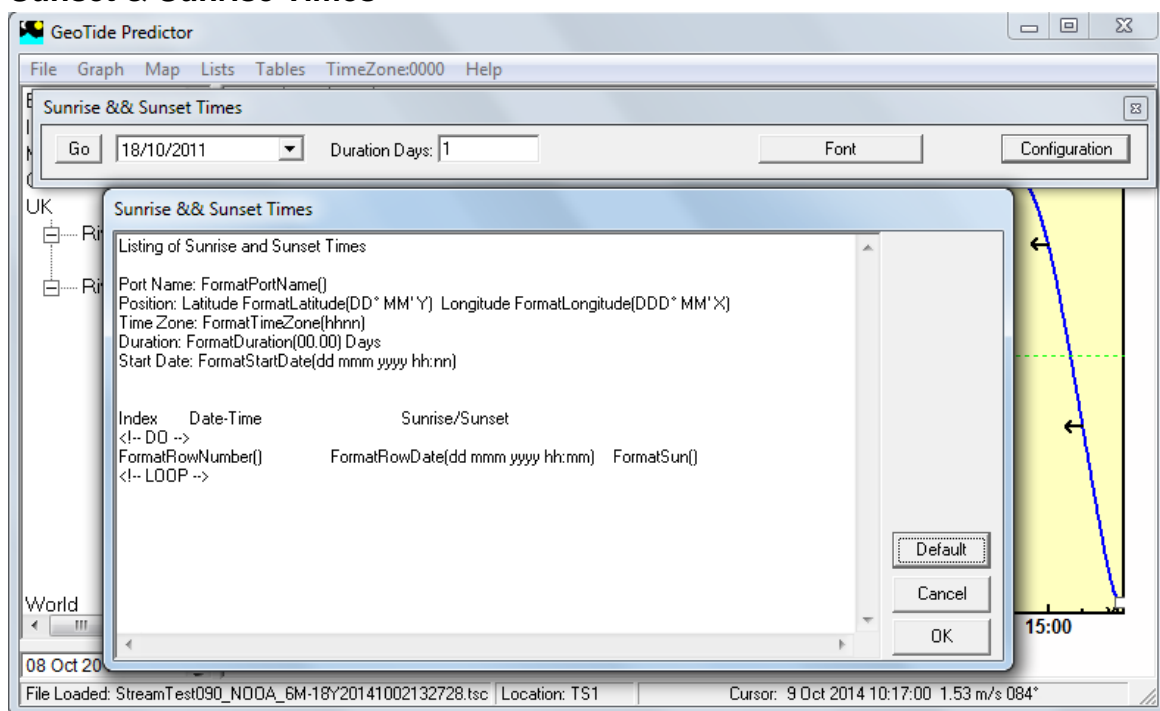
### 6.3.7 Stream Speed Maxima and Minima



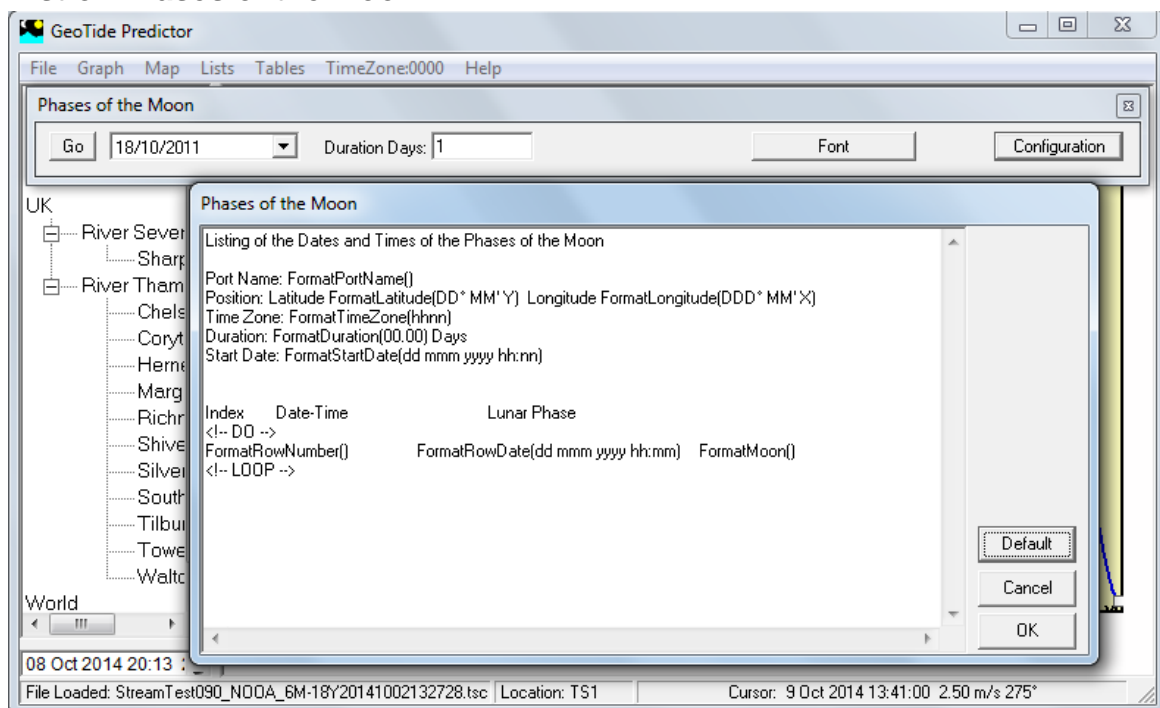
### 6.3.8 Fastest Streams



### 6.3.9 Sunset & Sunrise Times



### 6.3.10 List of Phases of the Moon



### 6.3.11 Substitution Functions

#### Overview

This page describes the syntax of the Substitution Function within GeoTide Predictor. Each active element is obtained by using one of the Substitution Functions below - these are replaced with actual values formatted according to the format string shown in brackets.

## Functions

FormatPortName()  
 FormatLatitude(DD° MM' Y)  
 FormatLongitude(DDD° MM' X)  
 FormatTimeZone(+HHHH)  
 FormatDuration(00.00)  
 FormatStartDate(dd mmm yyyy hh:nn)  
 FormatDraught("Vessel Draught: "0.00" m")  
 FormatChartedDepth("Charted Depth: "0.00" m")  
 FormatRowNumber()  
 FormatRowDate(dd mmm yyyy hh:mm)  
 FormatRowHeight(0.0)  
 FormatRowUKC("UKC: "0.0)  
 FormatYear(yyyy)  
 FormatMonthName("JANUARY,FEBRUARY,MARCH,APRIL,MAY,JUNE,JULY,AUGUST,SEPTEMBER,OCTOBER,NOVEMBER,DECEMBER")  
 FormatDayNumber("#")  
 FormatDayName("Su,M,Tu,W,Th,Fr,Sa")  
 FormatMoon(H81,H98)  
 FormatTideHeight("0.0")  
 FormatStreamSpeed("0.0")

## Syntax

Each substitution function begins with the word "Format"  
 Only one of each Substitution Function can be present on any one page.  
 Substitution Function Parameters contained within the brackets()  
 The parameters take the general form of (<pre-text><format><post-text>)

## Parameters

<pre-text> is a double quoted text string which is displayed before the actual data  
 <post-text> is a double quoted text string which is displayed after the actual data  
 <format> is an unquoted string identical to Microsoft Excel format string of VBA (Excel etc)

If either the pre-text or post-text is not required it may be removed, including the quotes so that for example  
 FormatChartedDepth("Charted Depth: "0.00), FormatChartedDepth(0.00" m") and  
 FormatChartedDepth(0.00) are all valid formats.

## 6.4 Table Configuration

Refer to the main Technical page for instructions on how to display the Configuration button.

Clicking the **Configuration** button on the Table pane displays the Listing Program window.

Each window is used to control the appearance and formatting of the displayed lists. The edit windows are fully sizeable, and contain all of the instruction required to construct the respective Listing in ASCII text.

The command buttons function as follows:-

### OK

Loads new changes into the system. They will be saved and used from this point

onwards whenever the GeoTide is run.

**Cancel**

Cancels the changes you may have made.

**Default**

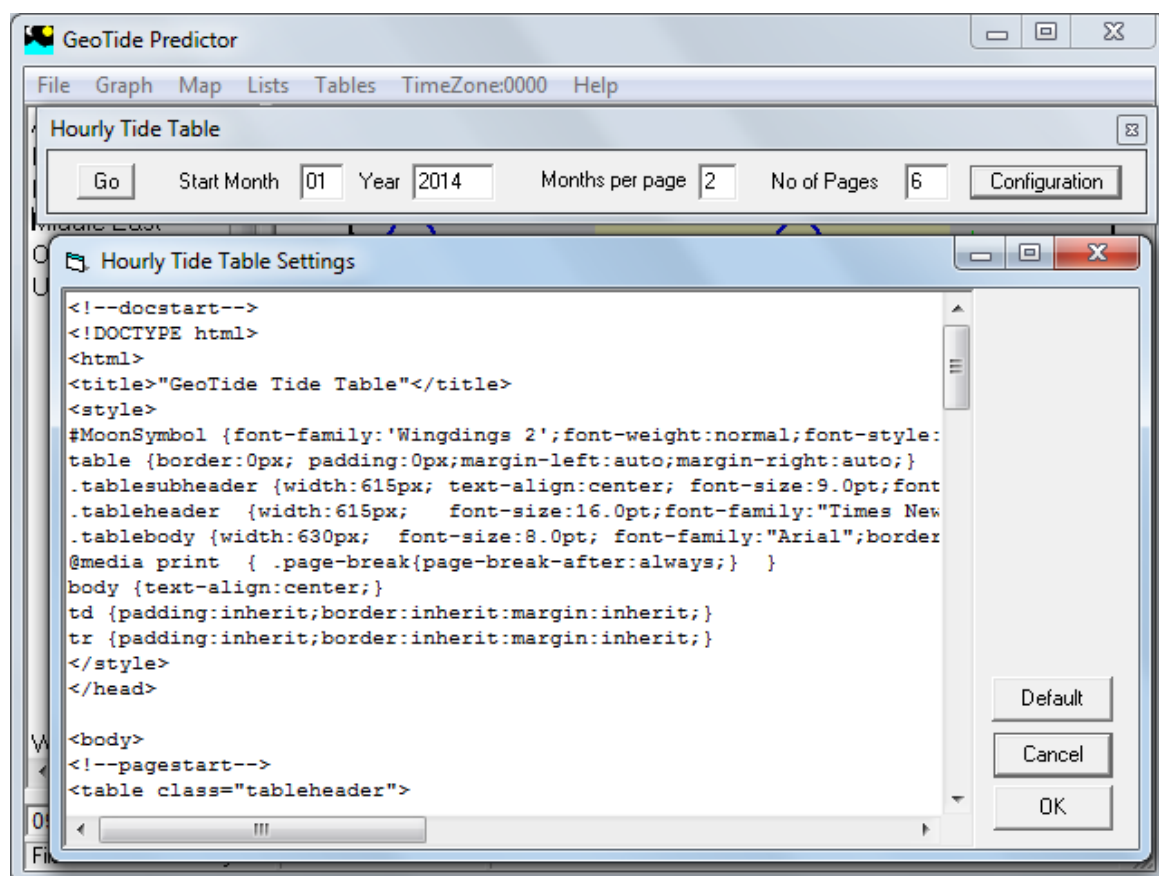
Restores the default settings to those as initially provided by the program Geomatix.

**Help**

Provides this help page.

### 6.4.1 Hourly Tide Table

Clicking the Configuration button on the Table Settings Windows above displays the Table Configuration Window shown below. This window is used to control the appearance and formatting of the displayed table. See the main Technical page to display the Configuration button.



The above editable and sizable window contains all of the instruction required to construct the hourly table in HTML as a web page.

The buttons function as follows

**OK** load new changes into the system. They will be saved and used from this point onwards whenever the GeoTide is run.

**Cancel** Cancels the changes you may have made.

**Default** restores the default settings to those as initially provided by the program Geomatix.

**Help** provides this help page.



Tidal and other information is inserted into the web page by the use substitution functions which are detailed at the end of this section..

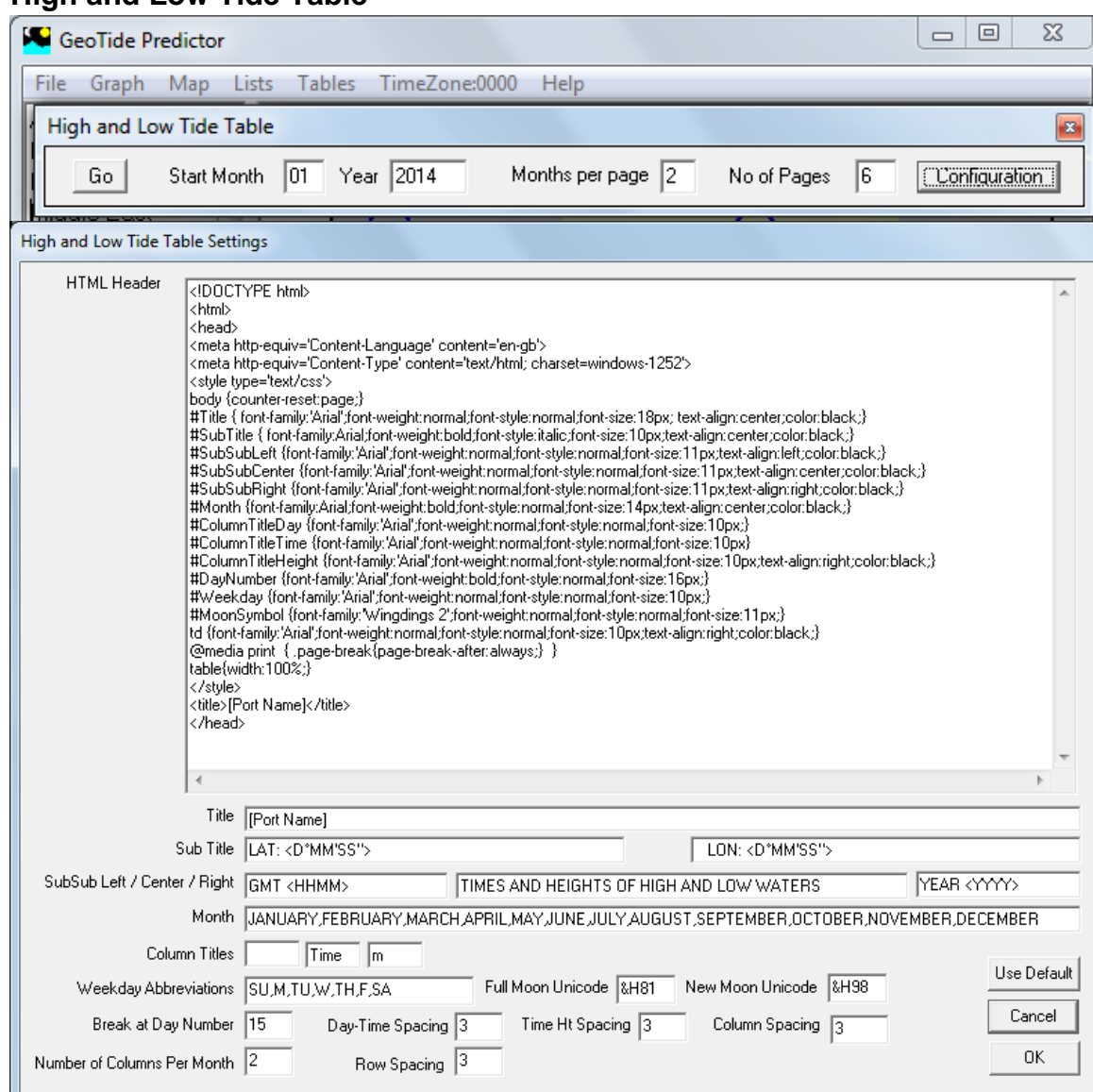
The permitted functions are listed are:-

In addition the following tags are used begin and end looping.

```
<!--daystart--><!--dayend-->
<!--monthstart--><!--monthend-->
<!--pagestart--><!--pageend-->
<!--docstart--><!--docend-->
```

By using these tags in conjunction with <td>, <tr>, <table> and </td>, </tr>, </table> and the CSS inline format strings the table can be entirely formatted.

## 6.4.2 High and Low Tide Table



Clicking the Configuration button on the Table Settings Windows above displays the Table Configuration Window shown below. This window is used to control the appearance and formatting of the displayed table. See the main Technical page to display the Configuration button.

### Command Buttons

Default: Restores the settings to the 'factory' default settings without closing this window.

Cancel: Closes the window ignoring any changes you may have made.

OK: Closes the window implementing any changes you may have made, including using the default button.

Other active elements are:

### CSS Cell Format

The displayed table is internally produced using HTML which utilises the cell formatting instructions displayed here. It uses CSS Internal Format Tags for each named cell. The tag identifier is the name preceded by a '#' symbol. You can change these CSS format tags to change the style and appearance of the displayed table. For example to change the font size of the title from 18 pixels to 20 pixels change the number after 'font-size:' i. e. '18' on the first row to '20'.

Each row determines the font, style and alignment of each field as shown below

CSS Tag Identifier	Style of Table Fields
#Title	Title
#SubTitle	Latitude and Longitude
#SubSubLeft	Time Zone Field
#SubSubCenter	Times and Heights of High and ....etc
#SubSubRight	Year
#Month	The Monthly column heading
#ColumnTitleDay	The Day Column Heading
#ColumnTitleTime	The Time Column Heading
#ColumnTitleHeight	The Tide Height Column Heading
#DayNumber	The Day Number
#Weekday	The weekday abbreviation
#MoonSymbol	The Moon Symbol
td	The style of each table element

### Title Field

Type here the title of the table. The text "[Port Name]" is replaced with the actual name for the tidal location.

### Sub Title

These contain the latitude and longitude display. Text outside the '<' and '>' is displayed literally. Text within '<' and '>' is a format string in which 'D' displays a degree digit, 'M' displays Minutes and 'S' displays Seconds. A decimal place displays the decimal point. So to display decimal degrees to three places use DD.DDD. The a cardinal character NSEW is added automatically.

### SubSub Left

Type here the time zone text which will appear on the left of the table header. The string <HHMM> will be replaced by the actual time zone.

### SubSub Center

Type here the central sub title e.g. TIMES AND HEIGHTS OF HIGH AND LOW WATERS. The string will appear exactly as typed.

**SubSub Right**

Type here the Year text which will appear on the right of the table header. The string <YYYY> will be replaced by the actual year.

**Month**

Type here the names of the months to be used separated by commas.

**Column Titles**

These are the column headers for Weekday, Time and Height. Text entered here will appear literally on the table.

**Weekday Abbreviations**

These are the weekday abbreviations to be used on the rows of the table.

**Full/New Moon Unicode**

This is the Unicode character specifies the symbol to be used for the Full and new Moon symbols. The font to be used is specified in the CSS Cell Format Table above.

**Break at Day Number**

The table will contain a column break at this row and will restart at the top of the column to the right, provided there are sufficient number of columns per month available (see below)

**Day-Time Spacing**

Specifies the spacing between the Day column and the Time Column in pixels.

**Time Ht Spacing**

Specifies the spacing between the Time Column and the Height Column in pixels.

**Column Spacing**

Specifies the spacing between adjacent Columns in pixels.

**Number of Columns Per Month**

Specifies the number of Columns to be used for each month.

**Row Spacing**

Specifies the row spacing between adjacent rows in pixels.

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